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EXPLORING SETTLEMENT PATTERNS AT THE ANCIENT MAYA PORT SITE OF CONIL, QUINTANA ROO, MEXICO

by

VERNA GENTIL

Under the Direction of Jeffrey B. Glover Ph.D.

ABSTRACT

The ancient Maya port site of Conil is located in the modern community of Chiquilá on the north coast of Quintana Roo, Mexico. In 1528 Francisco de Montejo, a Spanish conquistador, reported that Conil was a large town consisting of 5,000 houses. Recent work at the site has revealed that Conil appears to have one of the largest settlements along the northern coast of the Yucatan during the Late and Terminal Preclassic period and again during the Late Postclassic. This project presents the results of surveys that took place in 2016 and 2017 at Conil that succeeded in documenting 106 house mounds. Survey efforts extended beyond the site core in order to document the spatial extent of the site. With the newfound data, three widely used settlement patterns (the quadripartite, concentric zone and multiple nucleolus) were tested in order to understand the household distribution and organization of the site.

INDEX WORDS: Preclassic Maya, Postclassic Maya, Settlement Patterns, Maya Archaeology, Northern Maya Lowlands.
EXPLORING SETTLEMENT PATTERNS AT THE ANCIENT MAYA PORT SITE OF
CONIL, QUINTANA ROO, MEXICO

by

VERNA GENTIL

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of
Master of Arts
in the College of Arts and Sciences
Georgia State University
2017
EXPLORING SETTLEMENT PATTERNS AT THE ANCIENT MAYA PORT SITE OF
CONIL, QUINTANA ROO, MEXICO

by

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Office of Graduate Studies
College of Arts and Sciences
Georgia State University
December 2017
DEDICATION

To the past, present, and future members of Proyecto Costa Escodida.
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This work would not have been possible without the amazing archaeologists who created PCE, Dr. Jeffrey B. Glover and Dr. Dominique Rissolo. Being a part of this project has shaped who I am as a professional in this field. I’d also love to thank Dr. Nicola Sharratt who sparked my passion for archaeological theory, as it is not limited to academic discussions and is integral to the profession and current practice in the private sector. Without the three of you, this thesis would not be possible. From the bottom of my heart, thank you for everything.

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1 INTRODUCTION

The ancient Maya port site of Conil is thought to have been one of the largest sites on the northern coast of the Yucatan Peninsula. The site was most likely first settled during the Late Preclassic, which is when the majority of the monumental architecture would have been constructed. However, there was another major occupation during the Postclassic period. Conil was first documented in 1528 during the Spanish conquest of Mesoamerica by a well-known conquistador, Francisco de Montejo. His accounts reported that there were as many as 5,000 homes at Conil. If his account was accurate, Conil most likely would have been a major city that wielded influence across the region.

Currently, the site core of Conil is located just south of the modern fishing village of Chiquilá, Quintana Roo, Mexico. Unfortunately, due to modern construction in the area coupled with agricultural practices (which include the use of mechanized plows), many of the structures at the site have been severely damaged, dismantled, or looted. It is for these reasons that it is of the upmost importance to document and map the site while it is still possible to do so.

This project is part of a broader collaborative research project directed by Jeffrey B. Glover and Dominique Rissolo, known as the Proyecto Costa Escondida (PCE). This collaborative effort seeks to grasp a deeper understanding of maritime communities of the ancient Maya who lived and thrived in this challenging, coastal environment on the northern margins of the Yalahau Region (see Figure 1.1). As part of this effort, my project consists of mapping the vestiges of ancient settlements at Conil in order to observe the settlement patterns present within the site. In doing this work, I hope to provide insights into the social and political organization of Conil’s ancient inhabitants. In order to do this, three popular models were tested against the data collected from Conil. These are the quadripartite model, the concentric zone model, and the
multiple nucleolus model; these models have been used by previous scholars to interpret the settlement patterns of archaeological sites (Ashmore 1991; Sjoberg 1960; Torrens 2000).

The fieldwork for this thesis took place over the course of two seasons from 2016-2017 in the modern town of Chiquilá. While mapping features, I used a combination of different geospatial technologies, striking a balance between obtaining the most accurate locational data while covering as much terrain as possible. At the beginning of this thesis project 30 structures and house mounds had already been recorded at Conil by PCE members (Glover 2015). While it is impossible to assume that all 5,000 of the alleged homes reported by Montejo will ever be found or recorded, by mapping the settlements within the area it is possible to obtain a grasp of the site’s size and its role within the Maya world. This is because settlement pattern studies can provide deeper understandings of the agents who constructed and occupied a site. Further, the body of literature for this particular area is minimal when compared to other areas such as the coast of Belize. By recording the distribution of cultural resources at Conil and exploring potential site organization principles this thesis makes a contribution to the growing body of literature on coastal Maya sites and the similarities and differences these coastal sites had with inland ones. Because so little work has been conducted at the site, this body of work is one of the first steps to bring sites such as Conil into the broader narrative of Maya history.
1.1 Organization of this Thesis

Chapter 2 begins with an overview of the theoretical foundations of this thesis, as the goal of the project is to understand the settlement patterns at Conil and how smaller household groups at the site were associated with one another. Because of this, the project meets at the intersection of landscape and household archaeology. Chapter 2 is divided into four sections. The first is an overview of settlement pattern research and some of the models that have been incorporated into settlement studies. This section focuses mainly on spatial distribution models and some examples
of their uses in the northern Maya Lowlands. The second section of the chapter covers landscape archaeology, some of its most pertinent applications, and an overview of how this mapping project incorporates the theory. Landscape archaeology, much like settlement pattern research, can be incorporated into regional studies and can also focus in on singular sites. While settlement pattern and landscape studies do provide a wealth of information, this project aspires to go slightly deeper into the daily life and social interactions of the ancient Maya. This cannot simply be provided through settlement models or studies of the landscape. Because of this, it is imperative to incorporate the perspective of household archaeology. This section ends with a discussion on the insights that household archaeology can and has provided to the archaeological community. The fourth section of Chapter 2 is a summary of how I incorporate each of these theoretical perspectives into this work.

Chapter 3 describes the natural setting and geological history of the Yalahau region of the Yucatan Peninsula. This is a unique climate in relation to the rest of the peninsula because of the high amount of rainfall, which contributes to the many wetlands located within it. It is critical to have this background information in order to understand how the natural landscape influenced both the regional and individual settlements within the area.

Chapter 4 frames the historical setting of Conil, the Yalahau region, and the northern Maya Lowlands, in general. It is divided into six chronological sections, ranging from the Preclassic period to the time of Spanish contact. The end of the chapter focuses specifically on what we know about Conil’s occupational history.

Chapter 5 discusses the previous research and investigations conducted in the Yalahau region and at the site of Conil. Little work has been done at the site over the last century. As a
result, the chapter begins with a discussion of the work conducted by William T. Sanders in the 1950’s and concludes with more recent work conducted by members of PCE in 2014.

Chapter 6 describes the methodology used for data collection during this project while Chapter 7 provides the documentation of the data collected during both field seasons. This chapter provides a discussion of each survey area, and all of the cultural features that were documented in each.

Chapter 8 presents the analysis of the data collected from Conil and is separated into two main sections. The first test the three settlement models (quadripartite division, concentric zone, and multiple nuclei) against the data collected. The second discusses some of the environmental factors that could have influenced some of the settlement patterns within the site.

Chapter 9 concludes this body of work with a summery and offers an overview of the ongoing and future work that is taking place at Conil. While the fieldwork for this project was extensive, there is still much that needs to be done.

2 THEORETICAL FOUNDATIONS

2.1 Introduction

This project analyzes the settlement patterns within and around the ancient Maya port site of Conil. In doing so, I attempt to understand not only the spatial distribution of identified house mounds and mound groupings, but how the settlement patterns at Conil were planned by and affected the agents living at the site. This is tricky, as it is very likely that not all of the architecture within Conil was constructed during the same time period. Although the data sets dealt with in this body of work are the static remains of a society, it is important to keep in mind
that a society or community is not static in itself (Canuto and Yeager 2000:8) This lack of chronological control presents a limitation to this project, because it constricts the extent of interpretations that can be made about the site and the agents who inhabited it. 

This project also seeks to interpret how the ancient Maya at Conil interacted with the natural environment in order to thrive in this region of Mesoamerica. Though Conil is only one of many sites situated along the northern coast of the Yucatan, this work can help provide insights into the general organization, perspectives, and lives of other maritime communities across the Maya world.

At its core, this project is a settlement pattern study. This perspective provides explanations about a society based on the placement and distribution of architecture and settlements (Ashmore and Willey 1981) as well as how to interpret aspects of social organization within a region (Trigger 2006:379). Though this is useful information, this project goes a step further. In doing so, this body of work is situated at the intersection of landscape and household archaeology. Appropriately, landscape archaeology draws much of its foundation from settlement pattern studies with a marked focus on how both the natural and built environment influenced people’s lives in the past. This theoretical perspective focuses on the dynamic relationship between agents and their environment as constructed landscapes are conceived as an active force that can influence the behaviors of individuals within a site (Anschuetz et al. 2001:161).

Household archaeology incorporates the discourses from a number of theoretical frameworks such as practice theory and feminist archaeology as it seeks to understand the live of the common people who inhabited archaeological sites. What is especially important about this perspective is the interest in how the daily practices and activities of agents are reflected in the
data sets and assemblages that have been left in the archaeological record (Douglas and Gonlin 2012:3) According to Wilk and Rathje (1986:618), the household is the “smallest and most abundant activity group” at an archaeological site. While aspirational in the case of this thesis, I think it is important to keep this theoretical perspective because it allows archaeologists to bridge the gap between contemporary social theories and the actions and practices of past societies (Wilk and Rathje 1986:617).

Logistically, this particular project cannot delve deeply into the past daily activities at Conil. The datasets collected consist mainly of the location of individual house mounds and other cultural features as they are situated on the landscape. However, households, their locations, and their proximity to one another are the primary focus of this project. It is for this reason that the theories and methods used in this archaeological discipline have been incorporated into this work.

2.2 Settlement Pattern Studies

Settlement pattern studies did not become a standard archaeological practice until after Gordon Willey’s Virú Valley project (Trigger 2006:375). This pioneering survey conducted in Peru during the early 1950’s succeeded in documenting hundreds of archaeological sites within a single coastal valley (Willey 1953). The results provided the context and potential for studying political and social organization though the use of in situ archaeological remains such as dwellings, monumental architecture, cemeteries, and irrigation networks (Trigger 2006:377). This single study made a major impact on archaeological survey methods and the subsequent interpretations of archaeological sites. It made it possible to answer questions pertaining to human behaviors across the span of an entire region, alongside the context of a single site (Trigger 2006:376). This is because settlement pattern studies can focus on various cultural
features at different scales. Through this approach, archaeologists are able to study “single structures, site layouts, and intersite distributions” (Wilk and Ashmore 1988:7) in order to interpret a number of aspects about prehistoric civilizations. The first two of which are the primary focus of this project.

In Mesoamerica, early settlement pattern work focused mainly on monumental architecture and the site centers of Maya territories. The primary interest of these studies focused on location, population, and social organization (Ashmore and Willey 1981:11). Some of the very first site wide documentation of domestic features in the Maya area took place between the years of 1930 and 1960. During this time, O.G. Ricketson Jr. and William R. Bullard explored a number of settlements within the Maya Lowlands (Bullard 1960; Ricketson 1937). Ricketson is credited with being one of the first Mayanists to document house mounds outside of Maya ceremonial centers. During his survey, he cut a cruciform transect out from the site center of Uaxactun, a Preclassic/Classic site occupied from 300 BC - AD 900. His survey resulted in the documentation of 78 mounds and about 50 storage pits, referred to as chultunes (Ashmore and Willey 1981:9). Although this did not become a mainstream exploration method for quite some time, it provided a foundation for archaeologists to survey areas outside of monumental architecture. Through these methods and collection of data, archaeologists are able to better study the dwellings of the actual people who inhabited Maya cities, as opposed to only the elite and ruling class.

Another early settlement pattern to mention comes from the work of Bullard, who had conducted work similar to that of Willey. His surveys set out to document cultural features associated within the northeast Petén region of Guatemala. He opportunistically explored the area, which covered a total of 250 km², and took note of cultural remains and features. The
features he recorded ranged in size from monumental architecture to small mound platforms (Ashmore and Willey 1981:11; Bullard 1960). Through this work, he coined some of the terms still used in the archaeological lexicon such as: household cluster, minor ceremonial center, and major ceremonial center (Ashmore and Willey 1981:13).

2.2.1 On Maya Cosmology

Many archaeologists began to observe repeated patterns at varying spatial scales amongst a number of Maya sites. These patterns were largely associated with partitioning items into four distinct areas and led archaeologists to develop the quadripartite model. It has been widely accepted by Mayanists that the worldview of the ancient Maya is often reflected in the built environment (Ashmore 1991:200). Some scholars further argue that the cosmology of the Maya influenced nearly every facet of their lives. This includes everything from their kinship organization, practices in war, and their rules pertaining to subsistence. (e.g., Ashmore 1991; Coggins 1980; Friedel al 1993; Mathews and Garber 2004; McAnany 1998; and Tedlock 1985).

In brief, according to Ashmore (1989, 1991) the ancient Maya conceived of the universe as being multi-layered, with the heavens and celestial realm having thirteen layers and the depths of the underworld (*Xibalba*) having nine layers. The earth was situated between both realms and connected to them through portals such as caves and cenotes (Sharer 1994:524). Another connector from earth to the heavens and *Xibalba* was the ceiba tree (*Ceiba pentandra*), whose branches were thought to hold up the sky and whose roots permeated down to the underworld (see Figure 2.1). This tree acted as the center of the universe, known as the *axis mundi* (Sharer 1994:532). Extending out from this *axis mundi* are the four cardinal directions. Each of these
directions is associated with a specific tree, bird, god, and color (Coe 1965:100; Sharer 1994:288).

Figure 2.1 Detail of San Bartolo Mural (after Hurst 2009, Figure 74)

There are numerous examples from sites within the Maya world that reflect these significant religious ideologies and incorporate them into their built environment (Mathews and Garber 2004:49). For example, quadripartitioning of caches, individual buildings, and ceremonial centers is common at Mesoamerican sites. Some examples include the organization of burial goods at the Late Preclassic site of Cerros, located in northern Belize (Freidel and Schele 1988:556), the arrangement of the ceremonial complexes at the Classic period site of Tikal in Guatemala (Mathews and Garber 2004:50), the cache found in the Preclassic ceremonial center of Cival (Estrada-Belli 2006), and the site of Xunantunich in western Belize (Yaeger
to name a few. This argument is also made for the Classic period site of Uaxactun, located in the Petén region of Guatemala (Coggins 1980).

Further evidence of this physically manifested worldview has been observed at sites which have four entrances, one at each cardinal direction. These are evidenced by raised paths, known as *sacbeob*, which lead from the edge of the city into the site center. Examples include the Late Preclassic/Early Classic site of Quirigua, located in Guatemala (Ashmore 1989), the continuously occupied site of Copan, located in Honduras (Maca 2006), and the Postclassic capitol city of Mayapan, located in Yucatan, Mexico (Pugh 2001). These entrances and pathways through each of these sites have been interpreted as being reflective of the world tree and the axis mundi often described in Maya mythology (Ashmore 1991:201).

Coe (1965) also described how this religious worldview is reflected in the built environment of Postclassic lowland settlements. According to his model, based largely on ethnohistoric accounts, the Postclassic/Pre-conquest Maya had four entrances to their settlements. Each of these roads were oriented along one of the cardinal directions and led to the center of the settlement (Coe 1965:102). The entrances to these roads were especially significant during rituals associated with the New Year. Accounts by Landa describe festivals involving rituals where statues of the *Bacabob* (gods who support the heavens) and the rain god *Chac* were placed at the entrances of the town (Coe 1965:100). This suggests that there was a level of intentional planning of settlements in this area that was directly influenced by a shared ideology and religious worldview of the Maya.

### 2.3 Spatial Distribution Models

In order to understand settlement patterns, archaeologists use a variety of models to interpret the spatial data collected from archaeological sites. Each of the models provide different
implications about how the inhabitants of a site were organized and interacted with one another, be it politically, socially, or economically. Often, the models that archaeologists apply to ancient sites are provided by other disciplines such as sociology, economics, or geography. Some of the most popularly adapted models are the quadripartite model, the concentric zone model, and the multiple nucleolus model. Each of these is discussed below; the distribution of the settlements at the site of Conil in relation to each of the models is discussed in Chapter 8.

2.3.1 Quadripartite Model

According to Ashmore (1991) the layout of ancient Maya monumental and ceremonial centers were influenced by quadripartite planning principles, which were a direct reflection of the pan-Maya religious worldview. The placing of architecture at the cardinal directions was meant to represent “symbolically charged positions in architectural arrangements” (Ashmore 1991:200) and that each site may be a reflection of the “map of the universe” materialized in the placement and planning of architectural complexes (Ashmore 1991:201). It is the placement of these buildings and then the subsequent rituals conducted to consecrate these places that truly gave them significance and meaning.

Evidence for this interpretation was found in the North-South orientation of a number of sites constructed from the Late Preclassic into the Late Classic. The site’s centers usually encompassed a ball court near the center of the ceremonial complex, which was representative of the transition between the two directions. Evidence for this was further observed in the site’s sacbeob, which would often connect clusters of monumental structures that were located at the four corners of the cardinal directions. (Ashmore 1991:200).

This model of site planning has been observed at a number of sites, such as Preclassic Cerros in Belize (Freidel and Schele 1988:561) and Late Classic Quirigua in Belize (Houk
However, perhaps the most famous example of this site planning principal is located at the Twin Pyramid Complex at the site of Tikal, Guatemala (Ashmore 1991). Many archaeologists have adopted this interpretation and have applied this model to their findings at a plethora of Maya sites. Two other examples include: La Milpa in Belize (Tourtellot et al. 2003) and Dos Pilas in Guatemala (Demarest et al. 2003). Further evidence for this particular model was identified at a sample of sites in Belize where the quadripartite model does seem to be a convincing norm. At the majority of sites studied, their orientation consistently fell around 22.5° east of north (Houk 2017:7).

Maya sites having elements of quadripartite division have been accepted by much of the archaeological community as being the norm for Classic period Maya sites. However, the significance of these divisions has come under criticisms in the last decade due the heavy implications of religious significance in these patterns, see below (Smith 2005). This is largely due to the interpretations of such patterns as being maps of the cosmos, referred to as cosmograms. This term has been applied to a number of features including reservoirs, stelae, burials, and sacbeob, and individual buildings (Smith 2005:218). Michael Smith has been the harshest and most vocal critic of the quadripartite model. His criticism is not of the patterns archaeologists are observing, but in the methodology through which a number of Mayanists are arriving at their conclusions. We cannot argue that objects are representative of a cosmological worldview simply because of a placement or alignment with a cardinal direction. In his own words Smith (2005:220) argues that archaeologists should not make “highly speculative interpretations as if they were reasoned and unproblematic conclusions based on empirical evidence.” While this is a statement that few would contest, Ashmore and Sabloff (2003) make a
compelling argument that their hypotheses and methodologies for arriving at their conclusions are indeed meticulous and based on sound evidence.

While there is no doubt that the ancient Maya constructed architecture with a preconceived, conscious plan, other factors may have been involved in their decision-making processes. For example, site plans can change over time, creating a palimpsest of architecture within a single ceremonial center. Further, similarities in site plans may represent political or social ties (Houk 2017:10). Take, for example, the Late Classic sites of Sayil and Labná, located in the Puuc Hills of the Yucatan Peninsula. Both sites contain a series of *sacbeob* that join the residential palaces within the sites. They were also constructed along the same degree or orientation (Houk 2017:9). It is argued that there was an element of emulation that influenced the construction patterns at both of these sites (Houk 2017:9). Ashmore and Sabloff (2002) further argue that emulation along with any number of localized decisions contributed to the patterns in which civil and monumental architecture were constructed (Ashmore and Sabloff 2002:204).

Perhaps the clearest example of emulation between sites is that of Chichen Itza and Mayapan. As the final capitol of the Postclassic period, Mayapan’s layout was greatly inspired by Chichen Itza’s site plan. The origin myths of the two sites are even similar in that Chichen Itza was formed when the “four divisions” came together. Likewise, Mayapan originated when the “four lineages from heaven” came together (Masson and Peraza Lope 2014:58; Tozzer 1941). Both sites contain a principle pyramidal structure dedicated to Kukulcan, colonnaded halls, and round temples within their ceremonial centers (Masson and Peraza Lope 2014). It has been argued that Mayapan was constructed in an attempt to recreate the glory days of Chichen Itza (Milbrath and Peraza Lope 2009). Thus, considerations other than cosmological influences must
be taken into account when building cities and monuments such as: history, the natural environment, or alliances with neighboring communities.

2.3.2 Concentric Zone Model

The concentric zone model was developed in the 1920’s through the work of sociologists Robert Park and Ernest Burgess (1925). They argued that in urban settlements, competition for land often results in the physical division of people into different economic classes (Brown 2002:1). Their main argument stated that population demographics changed as one moved further out from the city center. The center is often described as the central business or factory district. From this central nucleus, there are up to five concentric rings radiating from it, each containing a different social class (see Figure 2.2). The further one moves from the center, the more dispersed the population density becomes (Logan and Semyonov 1980:94). In the model proposed by Park and Burges, the process of urban development and settlement distribution is in a state of constant flux. For example, affluent family groups have often been observed moving to more desirable areas, located away from the center. Likewise, immigrant communities of lower economic statuses have been observed moving to closer proximities of the central business district (Logan and Semyonov 1980:95).
This model was developed in order to explain postindustrial cities, such as Chicago, and is considered by some to be inappropriate for pre-industrial urban settlements, such as those built by the ancient Maya (Smith 2010:138). It is, however, functional when applied to these sites as a loose analogy (Smith 2010:137). A simplified version of the model was eventually developed for preindustrial sites by Sjoberg (1960). In this version, there are only three for four concentric rings which divide the major central complex, the elite class, common folk, and those residing along the periphery of the site, refer to Figure 2.2 (Smith 2010:138, 148). Before the creation of
any of these models, the first account of this form of social organization amongst the Maya was detailed by the Bishop Diego de Landa’s (1937[1566]) and stated,

Their dwelling place was as follows: in the middle of the town were their temples with beautiful plazas, and all around the temples stood the houses of the lords and the priests, and then the most important people. Thus came the houses of the richest and of those who were held in highest estimation nearest to these, and at the outskirts of the town were the houses of the lower class.

Based on the description by Diego de Landa and the models provided by Park and Borges and Sjoberg, archaeologists can conceive of the postindustrial business and factory district as the central ceremonial complex at a Maya site (Coe 1965; Tozzer 1941:62-63). According to Coe (1965) these complexes are often located near or surrounding natural features such as a river, cenote, or cave.

In Mesoamerican studies, this model is largely based on the assumption that social elements play a key role in the location of a household. In this case, the most attractive real estate is adjacent to the spaces in which religious and ritual activities were being performed. With this in mind, a site can be perceived as having highly compacted inner rings surrounding the monumental architecture within more dispersed rings of settlement the further from the core one gets. If Conil conforms to this settlement pattern the largest structures should be found near the site center along with the highest density of settlements.

Examples of the application of this model have been observed at a number of sites such as Tikal, La Milpa, and Caracol (Hutson et al. 2008:16). Further, this model has been applied to the Classic site of Dzibilchaltun, located in the Yucatan Peninsula. Extensive work has found that the majority of the monumental and vaulted architecture at the site is located within 600 m of the central cenote at the site (Kurjack 1974:191). In addition to the central area, there are two other distinctive concentric zones at the site, each with their own sets of neighborhoods (Kurjack
1974:193). Although Diego de Landa (1937) described other Maya settlement patterns, which do not follow the concentric zone model, it seems that this is the dominant model used to describe ancient Maya cities (Smyth et al. 1995:329).

Despite its popularity in Mesoamerican archaeology, there are a number of criticisms of the concentric zone model. Smyth et al. (1995:330) argue that features other than architecture need to be considered when attributing this model to a site. They offer the suggestion that artifact densities and functions can be analyzed alongside architectural remains in order to determine who exactly (be it an elite or a manufacturer) was living in specific parts of a site, and for what purpose each zone served (Smyth et al. 1995:331). Levi (2002) shares the same sentiments of Smyth et al. (1995) but feels that observing activity areas and the artifacts relating to them may not completely “capture temporal fluctuations of a different order or on a finer scale than architectural studies” (Levi 2002:122). Based on her work at the Late Classic site of San Estavan, in Belize, household location appears to have been largely influenced by nuances within the local environment rather than the desire to settle closer to the ceremonial center (Levi 2002:127).

Other critiques of the concentric zone model include the fact that it completely ignores the natural topography of the landscape. The model expresses the concentric zones as neat circular rings situated around an urban center, however the natural environment is not a flat backdrop against which people organize themselves in an orderly fashion (Torrens 2000:14). This topic will be further discussed below in the ‘Landscape Archaeology’ section of this chapter.
2.3.3 Multiple Nucleolus Model

The multiple nucleolus model suggests that sites radiate out from multiple focal points rather than a single district or natural resource. Visually, this model can be likened to a group of cells, rather than a concentric target (Torrens 2000:16). Harris and Ullman (1945), who developed this model, argue that urban centers will appear and grow due to their proximity to useful resources. In this model, settlements supposedly trade and correspond with others that have sprung up near different, but very useful resources.

What is interesting about the multiple nucleolus model is its attention to multiple origin factors. Topography, history, accessibility, and economics are used to explain the origin of settlement patterns, as opposed to religion and ceremonial purposes. In this explanation the natural and built environments are not treated as static backdrops, but as active participants in the planning of an urban area (Torrens 2000:17). Harris and Ullman (1945) also take into consideration that not all cities develop in a uniform way. The number of nucleoli at an urban center will likely vary from place to place as will the function of each nucleolus (Harris and Ullman 1941:862).

The multiple nucleolus model is not the most applied model for settlements at Maya sites, however, one convincing argument for it has been made at the Classic period site of Chunchucmil in the Yucatan Peninsula (Hutson et al. 2008:34). Different economic and social factors at the site gave way to the formation of distinct communities, which manifested in the form of multiple nuclei across the site. These areas were linked together through trade and other economic interactions (Hutson et al. 2008:20).

Although this model views urban areas as being influenced by a multitude of factors, there are very few examples of this model that can be applied to ancient Mesoamerica. This is
due to the fact that, like the concentric zone model, it was developed to explain the nature of postindustrial cities. Further, this model is not as adaptable as the concentric zone model. Due to the restrictions of applying this model, it may be inappropriate to incorporate it into preindustrial urban areas such as ancient Maya settlements. During my analysis (Chapter 8), I discuss community and neighborhoods at Conil and whether or not it is possible to incorporate this model into a mapping project such as the one conducted for this project

2.3.4 Final Word on Models

I have chosen to apply the three models described above because they appropriately compliment the theoretical foundations of the project and all three of them have been observed at ancient Maya sites. In many cases there is a combination of any of these models found at a number of sites. For example it is possible for a site to have attributes of both the quadripartite and concentric zone models. Further it will not be surprising if a combination of these models can be applied to the settlements of Conil.

There are a set criteria in how each of the three models described above will be reflected at Conil. If the quadripartite model were to be applied to Conil, there should be recognizable features of the model reflected at the ceremonial center. The monumental architecture should be oriented in a way that reflects the sacred geometry described by Ashmore (1991) and Coe (1965). If Conil conforms to the patterns of the concentric zone model, then the largest and most significant structures should be found near the site core. Lastly, if the settlements of Conil are reflected in the multiple nucleolus model, there will be different areas of the site that contain significant architecture with associated house mounds and discrete settlement clusters. It is important to keep in mind that models such as the ones described in this project are overly simplistic, as all models are. No site is 100% planned. Although planning principles take place at
different levels of occupation, the ruins that archaeologists are able to study today are the result of generations of growth and age. This is especially true for Maya sites, which are a true palimpsest of multiple constructions, with structures situated upon on another like stacks of Russian dolls. No site can be observed as a stagnant object; rather, they should be conceptualized as fluid and changing according to the needs of its inhabitants throughout time.

2.4 Landscape Archaeology

Landscape archaeology is the study of both space and place in the context of the human experience. This theoretical perspective encompasses both the natural setting and the built environment as they are significant to the inhabitants of a specific area. Some examples include mountains, caves/cenotes, and roads (sacbeob) (Knapp and Ashmore 1999:2). As discussed above the Maya worldview seeped into nearly every aspect of Maya life, down to the minutest of details. For example, large temples were constructed in the image of mountains, while the entrances to Maya temples were likened to the mouths of caves (Brady and Ashmore 1999:133). This is just one example of how the experience of living in the natural environment inspired the ways in which agents perceived of and created their built environment.

In its earliest form, landscape archaeology developed in response to settlement pattern studies such as Central Place Theory, which focused on how settlements were placed across a region. This perspective focused on economic influences rather than environmental factors. For example, the Central Place model conceives of settlements situated across a featureless landscape where all communities have access to equal amounts of resources (Bradford and Kent 1977; Evans and Gould 1982:276). Landscape archaeology sought to move away from these site focused studies and recognized the importance of the areas between the sites. Currently, landscape archaeology considers a number of motivating factors that were thought to affect the
decisions and actions of agents (Knapp and Ashore 1999:7). For example, a seasonal *sabana* on the eastern edge of Conil provided the inhabitants with a source of freshwater (Anderson 2001), while the ocean to the north allowed for the site to be tied into the entire Maya world through circum-peninsular trade routes (Glover et al. 2011a:195).

Ashmore (2009) suggests that there are four main categories that Mesoamerican archaeologists can focus on in order to arrive at valid interpretations of both natural and built environments. These are ecology and land use, social history, ritual expression, and cosmological meaning (Ashmore 2009:183).

Ecological and land use studies focus on evidence of farming and subsistence strategies. This can be in reference to resource management such as water, but it also refers to the anthropogenic impacts left upon a landscape (Ashmore 2009:183). Fedick and colleagues (2000) have provided an example of how this can be applied in the Yalahau region. Their project succeeded in conducting a full-coverage survey of the El Eden wetland in search of evidence for wetland manipulation by the ancient Maya. This work was successful in identifying 78 rock alignments that appear to have been used to manipulate wetland hydrology in a number of ways at El Eden (Fedick et al. 2000:138). Similar features have also been found in the wetlands near the Late Preclassic period site of T’isil (Fedick et al. 2000:142). Landscape studies in relation to the social history of a people can be studied through phenomena such as migration, military conquest, and political relationships that are reflected in the built environment (Ashmore 2009:184). These can be identified by the presence of temples, fortifications, or roadways (Ashmore 2009:185).

Ritual expression is often studied through the lens of sacred landscapes. One specific example is identified at the pilgrimage site of San Gervasio on the island of Cozumel. During the
Postclassic, merchants would make stops along their trade routes as pilgrimages to coastal shrines. These shrines acted as integral parts of the sacred landscapes and built environments. This in turn, influenced individuals to journey to the oracle of Ix Chel and offer items to the cenote on the island of Cozumel (Ashmore 2009:185; Patel 2005:104).

The final category, cosmological meaning, has been discussed at length in the earlier sections of this chapter. To reiterate, the Maya conceived of their natural landscape as being imbued with an animate force. Thus the power of these cosmos forces is understood to be embodied within the built environment (Ashmore 2009:185). From this perspective the natural and built landscapes come together to form a physical manifestation of the religious ideologies of the ancient Maya.

According to Anshuetz et al. (2001), landscape archaeology has the potential to bridge the gap between the theoretical camps of processual and postprocessual archaeology. This is because both perspectives have a number of compatible interests to which landscape archaeology can lend itself. For example, both perspectives are greatly interested in human collective behaviors (Anshuetz et al. 2001:162). People are not simply victims of circumstance, left at the mercy of the environment. They use their shared needs and innovations to manipulate and construct the world around them in order to meet shared goals of those within a community (Knapp and Ashmore 1999:4). Within the theoretical framework of landscape archaeology, it is possible for archaeologists to ascertain human motivations as well as the cultural processes that occur in any given place over time.

There are two main approaches to the study of landscape archaeology: subject-centered and outside-analysis. Subject-centered approaches emphasize the ‘in person’ exploration and experience of an archaeological site. Archaeologists in this camp argue that the physical
experience of being inside of an archaeological site can provide an honest, more authentic interpretation of the people who lived there in the past (Rennell 2012:511). This is explicitly a phenomenological viewpoint fueled by intentionally ‘peopling’ the past. It is considered a more humanistic way to study the landscape and those who were interacting with it. Proponents of this approach to landscape studies include Thomas (1993), Bender (1008), and Tilly (2004), among others. Expectedly, there are a number of harsh critiques of this perspective. Some of which are rooted in the work produced through this theoretical framework. Fleming (2006:270) argues that this work blatantly ignores factors such as population pressures, and existing political institutions.

Despite such critiques, landscape studies can help archaeologists understand the underlying factors of why structures were constructed and planned in specific locations. For this reason the work at Conil is rooted in this theoretical perspective. The work at Conil examines Ashmore’s four categories of study (ecology and land use, social history, ritual expression, and cosmologic meaning) in order to understand the dynamic relationship between the environment and agents living at Conil. This is an integral theoretical perspective, as it ties into the next section, household archaeology. Households, communities, and societies, in many ways, come into existence through the conditions that facilitate the development of their specific dynamics (Canuto and Yaeger 2000:2). Factors such as an individual’s proximity to freshwater, trade routes, or the geometry of the ceremonial center can be taken into account when considering specific aspects of a society. For instance, a number of potable water sources may influence a group to live in discrete clusters across the landscape, thus creating discreet settlement groups across a site. This in turn would create multiple nuclei within a single community.
2.5 Household Archaeology

Similar to landscape archaeology, household archaeology grew out of the study of settlements and Willey’s famously influential Virú project in Peru (Wilk and Ashmore 1988:7, Willey 1953). Likewise, this theoretical framework contributes to and draws from a range of theoretical discourses, such as feminist archaeology and practice theory (Robin 2003:309). For example, one approach to studying households and communities stems from the theoretical perspective that mutual practices shared by a group of people within the same spatial parameters help to create a community. Archaeologists can identify and interpret these groups though the material culture left behind (Canuto and Yaeger 2000:3). This in turn, identifies households as tangible units of analysis.

The importance of household studies grew out of the realization that we cannot understand an entire culture by exclusively excavating royal palaces and tombs. Those remains do not represent the majority of the residents at a site who held important roles such as artisans, farmers, and tradespeople (Robin 2003:318). Due to this fact, it is important to study the settlements and lifeways of the regular people who lived at ancient sites (Wilk and Ashmore 1988:7). In many ways, the perspective that household archaeology offers is one of the most practical ways to conceive of and interpret data sets and assemblages. In doing this, it is possible to focus studies on group membership, social organization, and socioeconomic integration of different groups within a society (Canuto and Yaeger 2003)

The developments of household archaeology have helped to bridge the gap between objects and activities. Within this theoretical framework, artifacts can be viewed in the context of their original settings (Wilk and Rathje 1982:618). Early household archaeological projects focused on form and function. This is reflected in studies such as the survey of San Gervasio on
Cozumel Island (Freidel and Sabloff 1984) and Kent Flannery’s landmark book The Early Mesoamerican Village (1976). However, more recently the goal of household archaeologists is to understand the common folk who lived at an archaeological site as it pertains to their various roles within their community (Robin 2003:309).

Defining the household can be problematic as there are no clear-cut cross-cultural criteria from which to draw a definition (Wilk and Rathje 1982:620). For some, the term household refers to a spectrum of activities and function, which change both temporally and locally. Wilk and Rathje (1982) argue that households act to serve any number of functions within a society. Later, Wilk and Ashmore (1988:5) expanded the criteria to argue that households are made up of shared activity groups who have a common residency. According to this duo, households are made up of both the social group and the dwelling (Wilk and Ashmore 1988:6). In Maya archaeology, the physical household is characterized by mounds or mound clusters situated around an open area or patio (Ashmore and Willey 1981:13). These open spaces are interpreted as being the primary activity areas for the members of a common household.

In Mesoamerican studies, the concept of open spaces as being activity areas is one of the most intriguing aspects of household archaeology. This is especially true for studies of Maya households where it is believed that most activities took place outside the home in areas commonly referred to as house lots (Robin 2003:314). Household studies that incorporate these open areas have been conducted at Sayil, (Smyth et al. 1995), Chunchucmil (Hutson et al. 2008), and Chan Nòohol (Robin 2003) and many others that this chapter does not have the room to include. These studies incorporate data collected from artifact typologies and soil analysis in order to identify specific activity areas of a site and to ascertain specific functions or actions taking place within different spaces within households (Hutson et al. 2008; Smyth et al. 1995.).
These studies go far beyond the scope of this particular project, however the identification of house lots as well as patio clusters is pertinent to this project. Further the open spaces around these dwellings can contribute to an understanding and identification of household clusters as well as existing neighborhoods within the site of Conil.

According to Smith (2010:139) “[a] neighborhood is a residential zone that has considerable face-to-face interaction and is distinctive on the basis of physical and/or social characteristics.” This is larger than a house group and assumes that the residents within a neighborhood will have a more personal relationship to one another. These can be divided by both natural and cultural features such as walls, canals, rivers, and valleys. Further they can be defined by the spatial proximity and association with other dwellings (Smith 2009:10). Analysis of urban neighborhoods in a prehistoric setting can improve the archaeological understanding of social identities as well as diversity amongst a single population that lived at a site (Smith 2009:16). Though this understanding, archaeologists are better equipped with the ability to people the past and to present a more holistic interpretation of archaeological sites through the perspective of households as being part of a larger community.

2.6 Theoretical Perspectives and Conil

Admittedly, to incorporate this perspective into this body of work was a bit too ambitious for the scope of this project. While household studies can aid in finding insights pertaining to social processes, economics or political organization (Douglas and Gonlin 2012:6), the data needed to make these interpretations has not yet been collected from Conil. In mapping the site there were hopes to incorporate differences in house mounds and mound groupings; however, the attributes of these cultural features did not have enough variance to create set categories. They also did not have diagnostic characteristics, meaning if there were an attempt to decipher the
palimpsest of occupation of Conil through this analysis, the interpretations would be nothing more than speculation; this is an important perspective to keep in mind as we move forward with future work at Conil. Theoretical Perspectives and Conil

Settlement pattern studies gave way to the formation of predictive modeling at archaeological sites. The data collected from Conil is not yet complete enough to tap into the full potential of each of these three archaeological perspectives described above. Further, due to a current modern occupation and the destruction of many ancient dwellings and temples, a complete map of the site may never be produced in its entirety. However, with the current data that has been collected at the site, this project is situated precisely at the intersection of settlement pattern studies and landscape archaeology. These perspectives are advantageous in understanding both the site planning principles and the social organization of the inhabitants of Conil.

By combining these theoretical perspectives there are a number of questions that can be addressed, which include: Did the residents of Conil prioritize access to the fertile soils of the sabanas over access to the ceremonial center? Was the constructed environment as influential to the residents at this site as the natural environment? For example, if the concentric zone model were applied to Conil, we can conceive of the royal class of the site as being extremely powerful and influential. Those whose residencies are close to the temples would likely have a higher social status than those living on the outskirts of the site.

The majority of the data from Conil comes from locating cultural features, specifically, house mounds - the very places that the inhabitants of this site were living. There is no comprehensible way to study the dwellings of a community without incorporating the theoretical
perspectives that household archaeology has to offer. The location and association of these dwellings to each other can provide insights as to how the residents of ancient Conil related to one another, be it politically, economically, or socially. This perspective can contribute to a holistic interpretation of the settlements at this site with reference to the questions stated above.

3 NATURAL SETTING

3.1 Introduction

The ancient Maya port site of Conil is situated on the north coast of the Yalahau region in northern Quintana Roo, Mexico. This area is made up of a unique landscape, as it contains a dry tropical forest, extensive wetlands, known locally as *sabanas*, and is bordered to the north by the Gulf of Mexico (Glover 2012:271). Although it is often a harsh environment, this location and ecosystems offer conditions that societies have been able to thrive in for centuries. In this chapter, I outline the geological history of the formation of the Yucatan Peninsula, highlight the region’s soil characteristics and formation processes, and discuss the overall natural setting of this region.

3.2 Geology

The Yucatan Peninsula covers 165,000 km² and includes the Mexican states of Campeche, Yucatan, Quintana Roo, and extends into Tabasco. It also expands into northern Belize and the northern El Petén region of Guatemala (Bauer-Gottwein et al. 2011:507). It is characterized as a “gently sloping limestone platform” (Sorensen 2010:7) that had been completely submerged under a shallow seabed during the Cretaceous and Tertiary periods of
earth (145-1.8 million years ago) (Graham 2003). During this time, marine and sediment deposits came together to create thick limestone strata on the peninsula (Weidie 1985).

After there was a drop in sea level and the peninsula was exposed, natural weathering processes began to take their toll. Over hundreds of thousands of years natural chemical weathering created the karstic topography that is characteristic of the Yucatan today. Karstic landscapes in general have very few rivers or streams due to the porosity of the bedrock. Instead of pooling at the surface, freshwater seeps into the ground and is collected beneath the surface to form aquifers (Grahman 2003:34). In this region, due to the proximity to the ocean, freshwater aquifers are situated atop a lens of saltwater (Perry et al. 2003:120).

Towards the end of the Cretaceous period (around 65 million years ago) the Chicxulub meteorite struck the earth at the northwestern tip of the Yucatan Peninsula. The impact created not only an extremely large crater, but it also produced a number of fractures along the earth’s crust (Dunning et al. 1998:89). This in turn created four unique physiographic regions of the peninsula: the Coastal Zone, the Northwestern Coastal Plains, the Northeastern Coastal Plains and the Eastern Block Fault District (Bauer-Gottwein 2011:508-509). Each of these regions are characterized by a set of fracture zones. The Ring of Cenotes may be the most well-known of these, but there is also the Sierrita de Ticul Fault line, the Holbox Fracture Zone, the Rio Hondo Block Fault Zone, and La Libertad Fault Zone (Bauer-Gottwein 2011:509).

The research area for this project is located in the Eastern Block Fault District, which is characterized by the Holbox Fracture Zone. This zone was first described by Weidie (1985) as being 50 km long. However, work conducted by Tulaczyk et al. (1993) have provided information of this zone extending from the north coast for 100 km and spanning 30-40 km wide. The Holbox Fracture Zone is characterized by long fractures lines to the north and a line of
cenotes to the south, ending near the ancient city of Cobá (Fedick 2000:133; Glover 2006:213) (also see figure 3.1). The fractures to the north contain extensive wetlands, known to locals as *sabanas*, which make up the Yalahau region of Quintana Roo, Mexico. It is this network of wetlands that makes the Yalahau region so unique. As previously stated, there are no rivers in this region, yet these wetlands allow for easy access to freshwater without tapping into the aquifers below the surface.
3.3 Wetlands, Freshwater, and Soils

There are more than 170 freshwater *sabanas* documented in the Yalahau region (Sollier-Rebolledo et al. 2011:324), which cover a total of 134 km² (Fedick et al. 2000:133). The inundation of these wetlands is variable as some are seasonal and others are perennial (Fedick et al. 2000:133). The wetland situated on the eastern boundary of Conil, Sabana Zanja, is a seasonal wetland, but contains *lagunas* which offer year round access to freshwater.

Access to other forms of freshwater can be found below the earth’s surface where shallow wells can easily be dug down to the water table. However, no such wells have been identified at Conil. It is possible that the close proximity to the ocean led to saltwater intrusions, thus rendering them useless. Other sources of freshwater are supplied by natural wells or sinkholes commonly referred to as *cenotes*. According to Fedick and Morrison (2004) many settlements in the Yalahau region are associated with at least one *cenote*.

The soils that have developed in this area may be less than ideal for maintaining large populations. However, the *sabanas* offer an active hydrological environment from which to develop deeper soils. What is intriguing about the sediments in this area is the report of existing calcisols in wetland areas, which have absorbed a substantial amount of calcium and carbonate (Solleiro-Rebolledo et al. 2011:322). This find is contrary to other studies conducted in the southern portion of the Yalahau region which found soils to be lacking both calcium and carbonate particles, making them leptosols which are less than ideal for agriculture due to their inability to hold water (Solleiro-Rebolledo et al. 2011:328).

Within the Yalahau region, average soil depths range from only a few centimeters to a meter. Though the soil layer is thin, it is quite fertile (Fedick et al. 2000:133). Soil studies
conducted by Solleiro-Rebolledo et al. (2011) have found that diversity of the local flora is directly associated with soil depth and saturation. Thin soils, which do not exceed 40 cm and are not constantly inundated support a surprising diversity of vegetation. Some of the species include “chico zapote (Manilkara zapota), black chechem (Metopium brownie), ramon (Brosimum alicastrum), chaka (Bursera simaruba), cedar (Cedrella mexicana), palm (Thrinax radiata), and fig (Ficus pertusa)” (Solleiro-Rebolledo et al. 2011:325). With the exclusion of the black chechem, which is poisonous, many of plants are used for building materials.

### 3.4 Climate

The Yalahau Region, like the rest of the Maya Lowlands, is characterized by its pronounced wet and dry seasons. The wet season usually begins at the end of May and lasts well into December. The dry season lasts throughout the winter months and well into spring. What makes this region unique is not the seasonality of rainfall, but the amount of rain it receives in comparison with the rest of the Peninsula. The average yearly rainfall in this region gets as high as 1500-2000 mm (Fedick et al. 2000:133), whereas the rest of the peninsula gets as little as 500 mm per year. This is attributed to the “double sea-breeze effect” which occurs due to the meeting of winds from both the Caribbean Sea and the Gulf of Mexico (Solleiro-Rebolledo et al. 2011:323; Williams 1976). The curvature of coastlines also influences this effect to a degree. Convex coastlines have been observed to receive higher amounts of rain due to this effect than those coastlines that are concave. It is also speculated that the curvature of the coastline has some influence on the intensity of rainfall when two bodies of air converge (Baker et al. 2001:194). Temperatures in this region are generally between 23 °C – 29 °C (Beddows et al. 2006:109).
There are two types of storm systems that affect the Yalahau Region. They are *nortes* and tropical storms. In the early months of the year, *nortes* are a series of cold fronts that last up to a week and are characterized by short thunderstorms. Though they can be dangerous, they do not usually cause severe damage, and can lead to a reprieve from the oppressive heat that is so characteristic of the area. Unlike the *nortes*, tropical storms and hurricanes have a significant impact on the vegetation in the area. Their periodic rampages can topple large tracts of forest. This can lead to increased potential for damaging forest fires and also leads to the secondary growth, which creates low dense forests (Fedick et al. 2000:133).

Although this corner of the globe can be a challenging one to survive in, the inhabitants of Conil interacted with and used the surrounding environment to make it their home. Based on ethnohistoric evidence, we know that the Postclassic Maya conducted rituals and ceremonies at during specific points of the rainy and dry seasons (Coe 1965; De Landa 1937[1566]). At Conil, we can conceive of the ancient inhabitants participating in the same practices, as the climate is influenced on these intense wet and dry seasons.

4 CULTURE HISTORY BACKGROUND

This chapter offers a brief summary of the dynamic changes that occurred during the history of the Maya. There is a marked focus on diagnostic markers of each time period, as this is integral to my work at Conil. Understanding different themes and characteristics of each time period aids in the ability to better understand the site on a deeper level. This is because archaeological sites are not stagnant windows into the past; rather they are more akin to the stage
for cultural change. This is especially true for Maya sites, as they are often a palimpsest of a number of construction phases that are often puzzling for archaeologists to interpret.

4.1 Preclassic Period (2000 BC – AD 250)

Throughout the Preclassic era in Mesoamerica, the Maya were engaging in long distance trade, large-scale agricultural production, the construction of monumental architecture, and distinct regional ceramic traditions (Coe and Houston 2015:80). The Preclassic Maya also appear to have shared a common religious identity.

Evidence of this shared religious identity is reflected in their iconography, which can be recognized on stucco masks and murals. Two prominent examples noted in the literature are present at the sites of Cival (Estrada-Belli 2006:66) and San Bartolo in Guatemala (Coe and Houston 2015:88, Figures 36 and 37). This religious identity and worldview seems to have influenced everything from the Maya’s burial practices to their subsistence patterns.

Though there were elements of social inequality, an ongoing debate centers upon the notion of kingship in the Preclassic (Freidel and Schele 1988:547). One of the key arguments for this understanding of the Preclassic Maya fundamentally has to do with iconographic evidence of this class. For example, the majority of Preclassic monumental architecture appears to be decorated in such a way that it venerated supernatural beings and sacred places (Glover and Stanton 2010:59). Further, the hieroglyphic evidence acknowledges that there were powerful positions held by important figures, but by no means depicts these characters as god-like rulers. Descriptions of the ruling class as representative of deities are depicted later, in the Classic period (Pyburn et al. 1998:38).
Many Preclassic Maya settlements have been identified near the edges of wetlands, known as *sabanas* or *bajos* depending on the region and distinct characteristics of the wetland area (Coe and Houston 2015:85). These areas most likely provided a stable source of water for growing urban centers. Early settlements would have been attracted to this and would have taken advantage of these fertile areas (Dunning et al. 2002:269; Fedick 1996:5). It has been argued that settlements along these wetlands influenced the trajectory of Maya civilization as we understand it today (Dunning et al. 2002:267). Sites such as Nakbe and El Mirador in the southern Maya Lowlands follow this trend and are situated adjacent to *bajos* (Dunning et al. 2002:271). Likewise smaller sites such as El Eden (Fedick et al. 2000) and T’isil (Sorenson 2010) found in the northern lowlands are also situated adjacent to *sabanas*.

### 4.1.1 Preclassic Maya in the Northern Lowlands

A number of Preclassic settlements have been identified in the northern lowlands and across the northern portion of the Yucatan Peninsula, including the Yalahau region. Evidence from ceramic analysis has found that people began to settle in this area during the Middle Preclassic (Glover 2012:274). Ceramic evidence and architectural associations are necessary for dating sites of this time period because there are very few instances where art and forms of script are found in this context (Mathews 2006:98).

One Preclassic architectural form that has origins in the northern lowlands is known as the Megalithic Style. This form of architecture is characterized by well-dressed stones, reaching up to a meter in length, which would have been covered in plaster. Though this style has been observed in monumental architecture, it has also been documented on smaller house platforms (Hutson 2014:117). At sites such as El Naranjal in the Yalahau region, architecture constructed in the Megalithic style has been observed to have large corbel stones protruding from a sub-
apron wall (Taube 1995:25, Mathews 2006:99). There are numerous sites within the Yucatan Peninsula, including Ek Balam, Ox Mul, Cobá, and Yaxuna that contain megalithic structures (Mathews 2006:101), suggesting that the megalithic style was a widespread style during the Late Preclassic and extending into the Early Classic period (Hutson 2014:118).

Another diagnostic architectural element of this time period is the large basal platform. This platform is extensive and supports a number of structures on top of it. These are often associated with adjacent temple structures (Glover 2006:641; Ringle 1999:194-198). Although large basal platforms are considered to be a hallmark of the Preclassic period, it is not the most chronologically sound indicator of this time period because large basal platforms were in use from the Middle Preclassic period into the Early Classic period, 400 BC – 350 AD (Glover 2006:642).

Architectural triadic groupings are also found in the northern lowlands and have their origins in the Late Preclassic/Early Classic period. This form of architecture has been documented at Yaxuna, El Naranjal, and many others. This style is often characterized by a T-shaped platform with three structures constructed on top of it. Each of these buildings face the center of the platform (Mathews 1995, 2006:100).

The final architecturally significant tradition of the Preclassic period discussed in this section is the ball court. As described in Chapter 2, ball courts were spatially significant because they demarcated the transition between north and south at ceremonial centers (Ashmore 1991). In the northwestern corner of the Yucatan Peninsula, at least 23 sites containing ball courts have been identified and have been dated to the Middle Preclassic period (Andrews and Robles Castellanos 2004). While the tradition of the ball game appears to be significant in the northern
lowlands during the Preclassic, it is important to note that only two possible ball courts have been identified at sites in the Yalahau region (Glover 2006:329)

**4.2 Classic Period (AD 250-900)**

The Classic period of the Maya is characterized by an explosion of art, monumental constructions, and grand rituals. During this period a distinct ruling class emerged which is evidenced by the stele, grand palaces, and royal tombs associated with those individuals. Hieroglyphic text from this time period further describes the ruling elite as being likened to the gods (Coe and Houston 2015:92). Further, it has been argued that these individuals came into their power through manipulating the relationship between rituals and politics (e.g., Lucero et al. 2003:523). By replicating and expanding significant rituals, which had developed during the Preclassic, those in power legitimized their positions and united the populace (Lucero et al. 2003:535). This transition from elite class to god-like kings can be observed in the archaeological record through an analysis of ritualistic artifacts and their range of use as well as their diversity. For example, tools used for bloodletting (a ritual that developed during the Preclassic) appear to be made from the same materials and to have been crafted at similar levels of expertise throughout the Terminal Preclassic and the Early Classic. As an emphasis on the ruling class performing these significant rituals grew, a stark contrast developed amongst the materials, size, and craftsmanship associated with these tools (Lucero et al. 2003). Further, the context in which these rituals took place transitioned from an intimate context within the household into a public spectacle, performed atop platforms in front of grand audiences (Lucero et al. 2003:535)

Settlements dating to the Classic Period were often led by an elite ruling class who were considered to be god like beings. These rulers were not only in charge of single cities, but of
entire polities their resources, and trade networks. Ultimately, the king’s place of residence served as the region’s capitol (Dunning and Kowalski 1994). Major regional powers during the Classic period in the southern lowlands include Tikal, Palenque, Copan, and Calakmul, among others (Pincemin et al. 1998).

4.2.1 **Classic Period in the Northern Lowlands**

The end of the Classic period is often demarcated by the ‘collapse’ of Maya civilization. This catastrophe did not seem to affect the northern lowlands in the same way. In fact, the Late Classic period gave way to the rise of what is perhaps the most well-known Maya site of all time: Chichen Itza (Coe and Houston 2015:174).

Outside of site centers, settlements during this time period were organized in such a way that showcased residential groupings and clusters. Sites such as Chunchucmil (Hudson et al. 2008), and Coba (Fletcher 1983) contain what Hutson (2008) describes as house lots. These are described as groups of mounds that are positioned around a central patio area. In many cases these are surrounded by *albarradas*, or stone walls. In the case of Chunchucmil, the *albarradas* come together and form what look like the cells of a honeycomb (Hutson 2008). These household groupings remain in use throughout the Classic and well into the Postclassic period.

This time period is associated with a regional depopulation of the Yalahau region. The only known site in the region that does not conform to this is Vista Alegre, located only 7 km east of Conil. Ceramic evidence described by Glover (2006) and Amador (2005) point to the fact that the region was not repopulated until the Postclassic.

4.3 **Terminal Classic (AD 850/900 – 1050/1100)**

The Terminal Classic is marked by Chichen Itza’s rise to power. During this time period, Chichen Itza had gained control of nearly all of the coastal trade ports, with an especially strong
interest with the central northern coastline. This is very likely due to the presence of specialized, salt producing communities located along what are known as Salinas, large salt pans (Eaton 1979; Glover et al. 2011a). One case study that points to this is at the site of Isla Cerritos, a strategically placed outpost (Andrews and Gallareta Negron 1986). Archaeological evidence of a strong Itza presence in this region is found in the diagnostic ceramic assemblages of the Sotuta spear found at a number of sites. This particular ceramic tradition is often found as a dramatically swift replacement for other ceramic traditions in a number of areas including Vista Alegre, only 7 km east of Conil (Glover et al. 2011a).

Chichen Itza was not only focused on controlling coastal sites, inland sites were taken by this political juggernaut as well. Perhaps one of the more prominent examples in the archaeological recorded is the sacking of Yaxuna, which took place between AD 850-900. During this event, monumental structures were taken down, burials were desecrated, and most of the site was left in ruins (Ambrosino et al. 2003:118-120) As Chichen Itza rose and gained more power, other polities were faced with collapse, such as Coba, and Ek Balam.

4.4 Postclassic Period (AD 1100 – 1530)

The beginning of the Postclassic in the northern Maya lowlands is generally defined as the time between Chichen Itza’s abandonment and Mayapan’s rise to power, approximately AD 1050/1100 (Bey et al. 1997:238). Although there were large scale Carnegie research efforts, this era was not extensively studied until the mid-1980s, which is largely attributed to the lack of a solid chronology of the time period itself. Unlike the Classic Period, very few stela with long count dates were erected during the Postclassic (Chase and Rice 1985:1). Further, there was a pronounced decrease in dedicating monumental architecture to ahaus, or kings. For archaeologists, this is problematic when comparing the chronology of the Postclassic to the
Classic period, because it is possible to calibrate long count dates to the western calendar. Further, Postclassic sites that had been excavated are not usually deeply stratified (Chase and Chase 1985:8). This lends itself to the difficulties in developing a dating system. Without deep stratification it is challenging to develop relative and absolute (based on C\textsuperscript{14}) dates and without long count dates on stela, attributing an absolute date becomes complicated.

It is for these reasons that the reigning perspective of the Postclassic for the majority of the 20\textsuperscript{th} century was as a time of decadence and social degeneration. Scholars who adopted this perspective argued that the pronounced decrease in stela and large-scale monumental architecture was indicative of a time of cultural degradation. Thus for many years the Postclassic was referred to as the ‘Decadence period.’ This perspective of the Postclassic Maya began to be called into question in the 1980’s when Chase and Rice (1985) proposed that the Postclassic should be perceived as an era of change and a “new start” for the Maya in the northern lowlands (Chase and Rice 1985:2).

Chase and Rice are not the only scholars who share this view. Sabloff (2007) later argued that those who think that the Postclassic Maya descended into a bastardization of their past glory were only looking at the elite residences and ceremonial centers. They had not yet turned their attention to the non-elite inhabitants of these sites (Sabloff 2007:16). If archaeologists were to shift their focus away from the temples and into the barrios, it would be understood that the Maya of the Postclassic were simply a society in change and flux, not disintegration (Sabloff 2007:17).

There are now a number of distinct characteristics that archaeologists can use to define the Postclassic period of the Maya. These are an emphasis on enhanced militarism, long distance trade, and the migration to and development of coastal settlements (Chase and Rice 1985:6). This
greatly supports the more contemporary interpretation of the Postclassic as one that was dynamic and thriving. This is especially true when considering the fact that many common folk of this time period had access to a variety of goods that would not have been obtainable in previous eras of Maya civilization (Sabloff 2007:22). According to most scholars, the Late Postclassic was a conflict ridden time period, as there was an escalated amount of tensions over access to coastal trade and control of trade routes (Andrews 1990:161). This may be attributed to the political collapse of Mayapan, the last Postclassic capitol of the Maya world (Oland 2009:78-80).

Militaristic presences have been identified in the archaeological record from the Postclassic in a number of ways. One of the most pronounced indicators of warfare in the archaeological record is site fortification, such as an impenetrable retaining wall (Chase and Rice 1985:6). The site of Mayapan expresses this characteristic and possesses a large wall which surrounds the densely populated city (Milbrath and Peraza Lope 2009). Other fortified Postclassic sites include the coastal sites of Tulum and Xelha (Webster 1976:365).

The second attribute for defining the Postclassic is characterized as a large-scale migration and settlement of the coast. It seems like a logical tactic for the Maya during this time, especially considering that the main trade routes were by sea. This trend appears to have begun during the Terminal Classic and is linked to the major site of Chichen Itza (Glover et al. 2011a:206) who controlled much of the northern coastline. Evidence of this has been found at a number of large coastal sites such as Isla Cerritos (Andrews et al. 1988) and Vista Alegre (Glover et al. 2011a), which contain evidence of having direct ties with Chichen Itza. After the collapse of Chichén in the Terminal Classic period, a number of ports fell out of the state’s controlling grasp (Barrera Rubio 2014:50) and there was an influx of pop-up ports along the coast that were established shortly after and leading into the Postclassic (Andrews 1990:166).
According to Andrews (1990:162) there appears to be three main types of coastal settlements: trading, religious, and specialized ports. Some examples of prominent ports during this time were Cancun Island, Puerto Morelos, Tulum, and very likely Conil (Andrews 1990:162). As of 1990, nearly 30 years ago, there were an estimated 320 sites situated along the coastline of the Yucatan Peninsula, with only 0.5 percent of them having had any extensive excavations conducted at them (Andrews 1990:159). Though a number of archaeological efforts have taken place since then, the number of excavated sites in the region is still strikingly low (personal communication with Glover). The lack of work at these sites is surprising and intriguing at the same time.

With the influx of population at port and coastal locations, there was also a growing dependence on coastal trade networks. These circum-peninsular routes stretched from Veracruz down to the Gulf of Honduras (Andrews et al. 1988) and can be conceived of as a means of connecting the northern lowlands to not only the rest of the Maya world, but people across the entire region of Mesoamerica (Barrera Rubio 1985:52). It has been proposed that this mercantile economy may have provided a higher standard of living to all people and not just the elite class (Sabloff 2007:17).

The Postclassic architectural tradition is unique when compared to earlier architecture at Maya sites. Although there was an incorporation of pyramids, temples, a number of archaeologists argue that the construction and design of these structures was of a cruder nature than those dating to the Classic and Preclassic periods (Andrews 1993:50). This can be largely attribute to the shift in lifestyle and values that occurred with the instatement of a mercantile trade based lifeway. Andrews (1993) argues that even though the architecture and other artifacts
that are diagnostic of this time period may be less ornate, they simply may have been produced in a more economically resourceful way.

One of the more intriguing architectural traditions that developed during the Postclassic is the construction of coastal shrines. These unique little structures are too small for a person to fit inside (Miller 1985:43). In most cases their size never exceeds two meters in any direction. These tiny shrines are constructed with stone masonry and are flat topped (Lorenzen 1993:61) and lack beam and mortar roofs (Andrews IV and Andrews 1975:59). At sites such as Tulum and Tancah they are usually found within the prominent view of the ocean. In this context they have been interpreted as possible lighthouses (Miller 1985:43). However, a number of Mayanists attribute them to being a part of the sacred landscape of this time period. A number of these shrines have been identified along the periphery of the site of Xcaret (Andrews IV and Andrews 1975:59), and they have also been identified at a number of sites across the island of Cozumel. It has been interpreted that merchants would make pilgrimages to these shrines as they made their way along trade routes (Andrews et al. 1975; Freidel and Sabloff 1984; Scholes and Roys 1948:90). This architectural anomaly is not restricted to coastal sites, reports of these shrines have come from inland sites, such as El Naranjal in Quintana Roo (Lorenzen 1993:61). It has been interpreted that merchants from all over the Maya world would make pilgrimages to these shrines as they made their way along trade routes (Andrews et al. 1975; Freidel and Sabloff 1984; Scholes and Roys 1948:90).

### 4.5 Contact and Historical Periods

The Spanish first made contact with the Yucatan Peninsula in 1517 when Francisco Hernández de Córdoba landed on the northeastern end of the peninsula near the site of Ecab. The following year Juan de Grijalva made his way from Cozumel to Conil. The year after that in
1519, Hernán Cortés followed the same path on his way to Veracruz. The Maya were not in the direct line of carnage that the Spanish brought to the New World for another decade when Francisco de Montejo made his way up the east coast of the Peninsula and across its northern perimeter (Andrews 1985:140; Chamberlain 1948:213). An estimated 90% of the Peninsula’s entire population is thought to have been wiped out over the course of the following century as a result of Spanish contact (Andrews 1985:140).

During the era of Spanish occupation on the Peninsula, towns were reorganized and carved into what are known as *encomiendas* (land grants) where the Spaniards shared what can only be described as a parasitic relationship with the local Maya. Under the encomienda system, the Maya were coerced into paying annual tribute (approximately every four months), which included food, textiles, and livestock (Patch 1994:35). This system was nothing short of extremely cruel and eventually led to revolts on the in the eastern regions of the Peninsula. Although the revolt met a harsh demise within a year, the rebellion succeeded in the fact that it dismantled the power held by the Spanish within the area (Chamberlain 1948:237–252).

### 4.6 Conil and Chiquilá throughout the Ages

According to previous work conducted across the Peninsula, it has become clear that the Middle Preclassic (700 B.C.–200 B.C.) is the earliest detectible Maya occupation within the Yalahau region (Glover 2006:646). Within this region alone, there are at least 18 sites that have been identified with a Middle Preclassic occupation. Further, on the northwestern end of the Peninsula, 140 sites with the same occupation have been identified by Proyecto Costa Maya (Anderson 2005:13)

The first excavations conducted at Conil uncovered ceramics dating from the Late Preclassic/Early Classic and Postclassic periods (Sanders 1955). Based on the ceramic data, the
northern lowlands are understood to be part of a widespread ceramic tradition and the first settlers in the Yalahau Region most likely migrated from different areas of the Peninsula (Glover et al. 2012; Rissolo et al. 2005). During my fieldwork in the summer of 2017, we identified what appears to be a Late Preclassic figurine head on the surface of a mound near the ceremonial center. During the Preclassic period, figures of this nature are commonly found in Belize and are interpreted as having ritualistic significance. Architectural analysis of the site core is difficult as there has been extensive damage, including stone robbing, of all of the monumental structures at the site. Further, no megalithic structures, triadic groups, or ball courts have been identified at the site. However, there are three large basal platforms with structures built on top of them. These structures point to the bulk of Conil’s construction happening in the Late Preclassic. Further, from what we understand about Conil, and the majority of the Yalahau region, was being populated during the Late Preclassic, but did not see a boom in population until the Terminal Preclassic period. (Glover 2006:651).

During the Classic period, many inland sites throughout the Yalahau region were abandoned (Glover et al. 2011a:203). This is most likely due, in part, to a change in the water table which would have negatively impacted the farming activities in the sabanas (Fedick 2014:72-83; Leonard 2013). However, only 7 km east of Conil, the neighboring site of Vista Alegre remained occupied well into the Classic period and was not abandoned until approximately AD 700. Vista Alegre was reoccupied again at the end of the Late Classic period (Glover et al.2011a). Conil, however, was not reoccupied until the Postclassic.

The repopulation of Conil during the Postclassic is congruent with the widespread regional trend that occurred at a number of sites along the coastline of the Yucatan Peninsula. In Conil’s case, it comes with the speculation that the inhabitants of Vista Alegre were possibly the
ones to reoccupy Conil (Glover et al. 2011a:206). This is rooted in the fact that Vista Alegre was abandoned around the same time that Conil became reoccupied. Given the two site’s close proximity to one another, this is not outside the realm of possibilities.

With the reliance on trade being a major characteristic of the Postclassic period, it is important to consider Conil’s placement at this time. The site was situated along a grand, circum-peninsular trade route on the western edge of an extensive wetland, which may have been navigable by the canals that gave sabana its name (Glover et al. 2011a). It is quite likely that Conil used its position to trade with not only the merchants who made their way around the peninsula, but also with inland sites which would undoubtedly have an invested interest in foreign and coastal goods. This is believed to be the case, as the Postclassic site of San Angel is located at the southern terminus of the wetland Sabina Zanja (18 km south of the Yalahau Lagoon). At this site, artifacts such as net weights and marine shell have been observed in large quantities. There also happen to be Postclassic murals that were created in the International style observed at Tulum and other sites (Glover 2006:752; Taube and Gallareta Negron 1989). Their existence is a clear signifier that the relationship between the coast and those who inhabited San Angel was of importance.

During the 16th century, then Spanish encountered a number of decentralized polities across the Yucatan Peninsula (Andrews 1984:589). Based on the work of Roys (1957) we understand that Conil was part of the eastern political province, Ecab. When the Spaniards initially made contact with the site, they described it as a ‘Gran Cairo,’ however, no such site in the archaeological record has matched this description (Glover 2006:232; Glover et al. 2011a:207).
As described above, the inhabitants of Conil were some of the first people to encounter the Spanish as they reached the New World. Juan de Grijalva, Hernán Cortés, and Francisco de Montejo each made stops at the site. However, during the installment of the *encomiendas* only six were established in northern Quintana Roo (Kantunilkin, Conil, Ecab, Polé, Zama [Tulum/Tancah], and Cozumel), all with the exception of Kantunilkin are located directly along the coast. However, none of these *encomiendas* were considered to be particularly successful due to the decimation of the area’s population (Andrews 1985; Roys 1957). By the middle of the 17th century the Spanish had left the area entirely (Andrews 1985:140).

It was not until the 19th century that people began to repopulate the area. It was during this time that the town was renamed Chiquilá (Andrews 2013). During the 1870’s the Mexican government carved out land grants in northern Quintana Roo with hopes to use the natural resources of the area to boost their economic and political standing. Two resources of particular importance were the chicozapote tree (*Manilkara zapota*), the sap of which was used in the production of chewing gum (Mathews 2009) and sugarcane (Reed 2001:288). The smokestack from San Eusebio, one of the sugarcane plants still stands just 1.8 km south of Conil’s site center. Other features of this time period include a railway, the remnants of which have created a subtle scar on the landscape. A small portion of this railway was recorded during the 2017 survey at Conil and will be further discussed in Chapter 7. This time period was likely one that drastically transformed the landscape of the area. With the introduction of large scale sugar cane farming came the dismantling and destruction of much of the large scale architecture built by the Maya. For example, the smoke stack described above was constructed from dismantled temples and other local materials (Gust 2016:93).
Currently, the ceremonial center of Conil is located on private land that is currently used as a pasture for cattle. The coastline is dotted with homes and mechanical *tallers* that service boats for those who work in the fisheries industry. In addition to fishing, the economy is supported by a ferry that transports tourists to Isla Holbox. Most of the residents of Chiquilá are not native Maya, but have come to the town from other states in Mexico, predominately Veracruz.

In understanding this cultural history of Conil we can begin to conceive of some of the difficulties that come with exploring the settlements within the site. For example, the long history of occupation creates a challenge when it comes to interpreting which settlements of the site were occupied at different times. Further, historic occupations have done irreparable damage to the ancient structures of Conil as well as the landscape. It is important to keep in mind that the destructive transformational processes that have impacted the region distort our image of what was present during the past.

## 5 PREVIOUS WORK CONDUCTED AT CONIL

Over the past century little work has been conducted at Conil. William T. Sanders (1955, 1960) was the first to publish investigations of the site. He named the site Chiquilá after the modern town adjacent to the mounds he encountered. While at the site he conducted excavations and established a loose chronology of the site based on the ceramic data he collected, which indicated that the site had been constructed during the Late Preclassic period and was abandoned during the Early Classic period. Sanders (1960) was able to deduce that the site was abandoned during the Classic period and was reoccupied during the Postclassic. Other archaeologists visited
the area but they did not conduct any work at Conil. For example, Jack Eaton visited Vista Alegre (7 km east of Conil) in 1968 (Andrews 2002:143, Eaton 1978).

It wasn’t until 1976, that A.P. Andrews conducted an aerial tour of the area and made a short visit to the site (Andrews 2002:143). He later reported to members of PCE that he had observed pyramidal structures and mounds close to the coastline during his visit; unfortunately these structures are no longer present. In the late 1980’s investigations were carried out by INAH at Vista Alegre, Yuukluuk, and Conil, which was still being described as Chiquilá (Andrews 2002:144). In 2002, Andrews made a convincing argument that the site was in fact Conil, the contact period city that had been reported to have over 5,000 houses by the early Spanish accounts.

The area was not more thoroughly investigated until after 1993, when the Yalahau Regional Human Ecology Project (YRHEP) was established. This project was formed in order to investigate wetland environments as they pertained to Maya political organization, settlement patterns, and land use (Fedick and Mathews 2005:33). However, Conil was not formally mapped until 2005, when Glover (2006) documented the mounds from a roadside survey (see Figure 5.1). In this same year the Proyecto Costa Escondida (PCE) was established. This interdisciplinary project is focused on archaeological investigations along the northern coast of Quintana Roo, Mexico. The PCE’s main goals are to study the dynamic relationship between humans and their environment as they adapted to the coastal landscape (Glover and Rissolo 2015:1).
Conil’s monumental core is located just 2 km south of the northern coastline and only 1 km west of Sabana Zanja. The main platform mapped in Figure 5.1 as Structure 1 measures approximately 100 m x 75 m at the base. This platform stands 6 m tall. Structure 2 is a substantial pyramidal structure that stands approximately 13.5 m tall and acts as the eastern
border of the site core. Both the superstructure constructed atop Structure 1 and the pyramidal Structure 2 were constructed from a combination of concrete and marine shells. North of these monumental structures are a number of scattered mounds, including a smaller pyramidal structure (Structure 8, see Figure 5.2) (see Glover 2006 for full description).

Prior to my thesis research, the PCE team conducted work at Conil that included the production of high-definition aerial imagery, four, off-structure test excavations, the mapping of 30 mounds and features (see Figure 5.2), and the production of a substantial report which details their work at the site (Glover and Rissolo 2015). It was during this field season that Structure 1 and Structure 2 were deemed to be part of a single, central acropolis and that Structure 8 and the sacbe connecting it to the site acropolis were documented.

![Updated map of Conil’s Site Center](image)

**Figure 5.2: Updated map of Conil’s Site Center (after Glover 2015, Figure 2.4)**
6 METHODS

6.1 Introduction

For this thesis, the survey work at Conil was carried out over the course of two field seasons. The first took place in the late spring of 2016, and the second took place over the summer of 2017. The primary method of investigation was done through opportunistic pedestrian survey throughout the modern town of Chiquilá and outlying areas. A number of landowners granted permission to survey their lands, and the ejido granted the project permission to survey large swaths of the region surrounding the town. Primarily, the use of a tape and compass, was coupled with geospatial technologies in order to document archaeological features, such as house mounds, across the landscape.

The majority of the properties explored over the two field seasons are currently being used as pasture and farm land. However there were a number of other areas that were covered in forests and dense secondary growth that surround the modern town of Chiquilá. When surveying in open areas such as a pasture, there was a high level of flexibility in which tools were used to document cultural features. Areas with thick vegetation restricted the methodology used throughout the survey. Dense tree coverage and secondary growth dramatically interfered with the aerial footage and visibility in the field. In these areas, a system such as the RTK base and rover GPS unit could not perform to the standard of accuracy needed to document points and locations of cultural features. If a survey area consisted completely of secondary growth, brechas (transects) were cut. These paths were oriented N/S or E/W. Thus ensuring that the areas were properly surveyed to the best of our abilities. According to measurements (calculated in ArcGIS 10.4) of the survey areas covered during my fieldwork, a total of 264.5 ha of land were surveyed and 127 house mounds were identified over the course of this project.
6.2 Data Collection

This project relied heavily on advanced technological systems to map the cultural features at Conil. A combination of aerial photographs, an RTK base and rover GPS system, a handheld GPS, and a tablet mapping application, were used to document the cultural features encountered during the survey work. These data were then managed using ArcGIS 10.4.1. With permission from local landowners, a total of fifteen properties were investigated while using any combination of these technological systems. Fortunately, some of these properties overlapped with the previous field season’s survey work (Meyer et al. 2015). This allowed me to ground-truth possible anomalies identified in the high-definition imagery (see below).

Aerial imagery was used to identify potential cultural features and high probability areas. As mentioned above, some of the earlier survey work with UAVs (see Figure 6.1) produced a number of high-resolution models, which helped during this survey at Conil. Points were collected and compared against any anomalies observed in the imagery. This proved to be a useful tool in interpreting the landscape in areas that had been cleared. However, the anomalies that were identified were often ambiguous and required ground verification in order to properly assess any observed anomalies.
The RTK Base and Rover GPS System used throughout this survey is the Leica GS14 base and rover model. At its optimal accuracy, it can provide a horizontal margin of error as low as 5 cm. An initial datum for the site was collected atop the main pyramidal structure located on the main platform at the site core (see Figure 6.2). Additionally, other datums were set up at arbitrary locations within each survey area. Although the RTK system was user friendly and had the highest accuracy of the geospatial technologies used during this project, it was not without its limitations. The unit is best suited for open environments, and in areas with little tree coverage. However, in densely vegetated areas a clear communication signal between the base, rover, and satellites cannot be made. In these conditions, the system becomes temperamental and does not
collect data to the needed accuracy of this project. It is for that reason, a backup recording devise was on hand at all times.

Figure 6.2: RTK setup atop Structure 1 at Conil

The Handheld GPS has a wider margin of error than the RTK system; however, it was the most versatile technological piece of equipment used throughout the survey. The handheld GPS was used alongside the RTK system, the tablet application, and the ‘tape and compass method’ for the entirety of this project. One of the most useful functions of the handheld GPS is the tracking feature. This produced a line shapefile that could be exported into ArcGIS. This was particularly useful during day-to-day survey planning as well as during the data analysis phase of the project.

The Mappit tablet Application is a relatively new survey application that has been developed within the last couple of years. It allows in-field data collection, visualization, and analysis, similar to that of a basic GIS program. The user can interact with the data in multiple
layers while creating polygons and other shapefiles. It has to ability to track survey paths, record multiple data sets, georeference photos taken in the field, and projects everything onto a base map, which can be uploaded to the tablet (see Figure 6.3). It is a versatile mapping device with the functionality of a handheld GPS. The tablet used for this project had bluetooth capabilities, which were used to connect to an external ‘Bad Elf’ GPS unit. This provided more accurate data logging than the tablets location abilities could provide.

Figure 6.3: In field data being processed on the Mappt Application

6.3 Data Sets

There were five categories used to define the cultural features identified over the course of the fieldwork: “Mounds”, “Possible Mounds”, “Chich Mounds”, “Rock Alignments”, and “Features”. Each of these has been set against a rubric so that there was as little ambiguity as possible when describing individual features across the site.
Mounds are identified and interpreted as having been the foundation for domestic structures. This is based on the “principle of abundance” which argues that the most abundant structure found within a site is most likely the remains of a dwelling (Wilk and Ashmore 1998:10). These features are similar in size and shape, ranging in height from ~.5 m to 1.5 m (see Figure 6.4). Mounds often contain ceramic sherds and marine shell as part of the building fill, along with chich. Chich fill is made up of small limestone rocks, often the size of a fist. During the survey, mounds were recoded with any combination of the RTK GPS unit, the Mappit application, and the handheld GPS. The basal footprint of the mound was recorded with a series of points collected with the RTK system. When the mound was above .5 m in height, then inner points were taken to define the upper level of the mound. The Mappit application and the handheld GPS were used to collect a single point at the corner of each mound. A tape and compass were used on each mound and feature to ensure that if there were any errors with the technological mapping devices, the dimensions of everything that was documented would still be known.

Figure 6.4: General view from mound
Possible Mounds were identified as being mound-like, but lacked a definitive edge or observable artifacts. These could have been mounds or structures in the past, however erosion, looting of building materials, or agricultural practices may have significantly damaged them. On the other hand, they could simply be eroding areas of exposed bedrock. The ambiguity of Possible Mounds calls into question their legitimacy as being culturally significant. These were recorded using either the RTK system or the handheld GPS. In both cases a single point was recorded at the corner of the feature and the tape and compass method was used to document the size and orientation of each feature as best as possible.

Chich Mounds are identified as small piles of chich fill. These small features do not exceed 3 m in diameter and are often found in association with a mound, or found in small clusters. Oftentimes, sherds or marine shell are present within them, but this is not a mandatory attribute of a chich mound. It is speculated that these features served an agricultural purpose in or around patio or homegarden areas (Fedick and Morrison 2004:214). Protocol for recording chich mounds was the same as recording a possible mound. A single point was collected in the center and the tape and compass method was used to document the diameter of the chich mound.

Rock alignments are very discrete along the landscape and are usually found in association with mounds. They generally consist of two or more rectangular rocks placed in a line. There are not uniform in their orientation and vary in length from .5 to 3 m.

Features are classified as any other Pre-Columbian or historical feature that does not conform to the other four categories. These include sacbeob, apiaries, walls, or chultunes. Similarly to chich mounds and rock alignments, these features are often associated with mounds. Recording features included the use of either the RTK system or the handheld GPS. Points were collected along the perimeter, and were later analyzed in ArcGIS.
7 SURVEY AND MOUND DESCRIPTIONS

7.1 Introduction

As described in previous chapters, this project was conducted over the course of two field seasons and aimed to build upon earlier survey work conducted by PCE, which took place predominately around the site core of Conil and within the modern town of Chiquilá (Glover 2006, 2012; Glover and Rissolo 2015). The objective during the first field season was to gain a better understanding of the site boundaries and to define the parameters of Conil. Eight areas of land were surveyed and 58 mounds were identified and documented (Gentil 2017:311). At the conclusion of the first field season, it was determined that the site of Conil encompassed an area approximately 3 km in diameter.

Continuing the work in 2017, the goals were to survey within the major gaps of the site that had yet to be explored. In order to do this, property owners were contacted in strategic areas across Chiquilá. In addition, five of the nine properties surveyed in 2016 were revisited. This is because in the previous year portions of these areas were inaccessible due to dense vegetation. Luckily, during the 2017 season, many of these properties had been recently cleared and were available to be surveyed. In addition to the revisited properties, we were able to explore an additional five survey areas of land and cut 23 transects, or *brechas*, through heavily forested areas. In total, 69 new mounds were identified and documented bringing the mound count of Conil up to 161 (see Figure 6.2 for an overview of where all documented mounds at Conil are located). Two of these mounds consisted of substantial platforms, which are discussed in more detail in the following chapter. In total 15 survey areas were explored (see Figure 7.1) which covered an area of 264.5 ha of land.
During the survey, a representative artifact sample was collected from a number of mounds. Unless specified in the mound description, the artifacts collected consisted of ceramic materials. The analysis of these artifacts is still underway, the results of which will be known in the near future.

Figure 7.1 Survey Areas

The following is a description of each property and the cultural features that were located within its boundaries. I used a sequential count of numbers to identify the mounds. This followed the protocol established by Glover during the 2014 survey of the site. The mound numbers for this project begin at Mound 31, because the last mound identified in 2014 was Mound 30. Some of the mounds will not be listed in numerical order, as each mound was assigned its number arbitrarily at the time of their location and documentation. In some cases, the survey of a
property was not completed before another had begun. This contributed to some of the inconsistencies in the order in which cultural features were numbered.

![Figure 7.2 Conil, Survey Areas](image)

7.2 Survey Area 1

This property was surveyed during the 2016 field season. It is located 2 km NW of the sites acropolis and is 4 hectares (see Figure 7.3). The area is currently used for agricultural purposes and contains a large variety of fruiting plants. Bananas, soursop, plantains, watermelons, tamarind, palm trees and pineapples are only a few of the delicious bounties being cultivated on the property. The land is well maintained, and had been cleared shortly before the survey work took place. However, the long-term agricultural practices, including the use of a mechanized plow, has damaged many cultural remains on the property. In general, the mounds located on this property are low and subtle on the landscape. Very few of these mounds exceed
.5 m in height. In total, twelve mounds, two possible mounds, a single chich mound and a linear rock feature were located and documented.

**Mound 31:**

This mound is located in the NE quadrant of the property. It is characterized by large amounts of chich and a surface scatter of ceramics and marine shell. The boundaries of the mound are well defined. Mound 31 stands .5 m tall and measures 8 m N/S x 8 m E/W.

**Mound 32:**

This mound is found in the NE quadrant of the property and is bisected on the northern side by a fence which demarcates the property boundary. Some ceramic sherds and marine shell fragments were observed with larger, intact marine shell present in the SW corner of the mound. Some diagnostic ceramic sherds were present and three were collected as a small representative sample. Mound 32 stands .5 m tall and measures 8 m N/S x 8 m E/W.

**Mound 33:**

This mound is located in the northern quadrant of the property and is also bisected on its northern side by the fence that demarcates the property boundary. It has clearly defined boundaries on the areas that have not been damaged by the fence, observable chich fill, ceramic sherds, and marine shell. Mound 33 stands <.5 m tall and measures 10 m N/S x 12 m E/W.

**Mound 34:**

This mound is located in the northern quadrant of the property and is also bisected on its northern side by the fence demarcating the property boundary. It is in poor condition in comparison to other mounds observed on this property. Chich fill, ceramic sherds and marine shell were present, but a sample collection was not made. Mound 34 stands .5 m tall and measures 8 m N/S x 8 m E/W.
**Mound 35:**

This mound is oblong in shape, has poorly defined boundaries, and contains areas of exposed bedrock. Despite this, chich fill and artifacts were observed in high density, especially on the southern portion of the mound. A single lithic artifact made from silicified limestone was observed and collected from the mound. Mound 35 stands .5 m tall and measures 20 m N/S x 20 m E/W.

**Mound 36:**

This is a low mound with a high concentration of ceramics in comparison to the other mounds. A small sample was collected and a possible foundation stone was observed in the mound’s NE corner. A small chich concentration is located directly to the west of the mound. Mound 36 stands < .5 m tall measures 8 m N/S x 8 m E/W.

**Mound 37:**

This mound is clearly defined and has been constructed on a bedrock outcrop. This outcrop is exposed throughout the mound. Chich fill, ceramic sherds and marine shell were observed at the surface. Mound 37 stands .5 m tall and measures 13 m N/S x 13 m E/W.

**Mound 45:**

Mounds 45-49 are all located in the SW quadrant of this property and seem to be arranged in a circular cluster. It is possible that they were constructed to form a patio group. Mound 45 is located in the eastern portion of this cluster. It has clearly defined boundaries, however the top of the mound has been damaged. This was most likely caused by a tree fall. A small sample of three sherds was collected as a representative sample. Mound 45 stands 1 meter tall and measures 10 m N/S x 8.5 m E/W.
Mound 46:

This mound is badly damaged and contains a low density of chich and artifacts. It is located 20 m SE from Mound 45. Mound 46 stands < .5 m tall and measures 8 m N/S x 8 m E/W.

Mound 47:

This mound is oblong in shape and its southern portion is composed mostly of exposed bedrock. The western boundary is less defined due either to collapse or damage by modern agricultural activities. This damage extends into the upper portion of the mound, making it difficult to define its inner boundaries. A sample of nine ceramic sherds was collected, as they were present in high density. Marine shell and chich fill were observable and present throughout the mound. Mound 47 stands 1 meter tall and measures 14.5 m N/S x 20 m E/W.

Mound 48:

This mound is the northernmost mound in this cluster. It contains a high density of chich and ceramics sherds. A general surface collection was made. Located 2 m north of this mound is a linear feature that is oriented E/W and measures 20 m in length. This mound is closely associated with Mound 49 and blends into it at the eastern boundary. Mound 48 stands 1 meter tall and measures 16 m N/S x 17 m E/W.

Mound 49:

This mound seems to have been damaged by burrowing animals. Its western end slopes and blends into Mound 48. A small surface collection was made. Mound 49 stands 1 meter tall and measures 10 m N/S x 10 m E/W.
Linear Rock Feature:

This feature is located 20 m north of mounds 48 and 49. It is oriented E/W and stands .5 m tall. Ceramic sherds, marine shell, and chich fill were present on this feature in abundance. This feature measures 25 m long and 4m wide.

![Figure 7.3 Survey Area 1](image)

### 7.3 Survey Area 2

This property was surveyed in the 2016 field season. It is located 1.7 km NW of the site acropolis and is 19 hectares large (see Figure 7.4). There had been a recent installation of an irrigation system which resulted in the formation of transects with overturned soils. These were located every 40 m and were oriented N/S across the property. Along these transects there was 100% ground visibility.

This was advantageous given that much of the area was covered in tall grasses and had relatively low ground visibility. The property is primarily used as a cattle pasture and there is a
barn in the center of it. Low lying wetlands are present in this area and are scattered throughout the SW quadrant of the property. They are characterized by shifts in both elevation and vegetation. Cattails are present in greater numbers and grow up to two m tall. Along with the seven identified mounds, a cluster of five chich mounds were located in the NW quadrant of the property, none of the chich mounds exceeded 2 m in diameter. Six possible mounds were also identified on this property.

**Mound 38:**
This mound is located in the SE quadrant of the property. It is covered in grass and other vegetation, making surface visibility low. Despite this, concentrations of chich were observable. The inner surface is flat and well defined. An irrigation pipeline cuts into the western boundary of this mound making the location of the outer boundary difficult to define. Mound 38 stands .5 m tall and measures 22 m N/S x 20 m E/W.

**Mound 39:**
This mound is located in the NE quadrant of the property, the boundaries and form of this mound are well defined. It is covered in grass and other vegetation, making surface visibility low. Despite this, concentrations of both chich and ceramic sherds were observed. The west side of the mound is characterized by a higher concentration of chich. Mound 39 stands .5 m tall and measures 12 m N/S x 15 m E/W.

**Mound 40:**
This mound is located in the NE quadrant of the property. The boundaries and form of this mound are well defined. It is covered in grass and other vegetation, making surface visibility low. A low density of ceramic sherds was observed on and around this mound along with large conch shells. Mound 40 stands .5 m tall and measures 15 m N/S x 16 m E/W.
Mound 41:

This mound is located in the NE quadrant of the property and it 37 m east of Mound 40. The boundaries and form of this mound are well defined. It is covered in grass and other vegetation, making surface visibility low. A low density of chich and ceramic sherds were observed but not collected. Similar to Mound 40, large conch shells were present at the base of the mound. Mound 41 stands .5 m tall and measures 13 m N/S x 10 m E/W.

Mound 42:

In the NE quadrant of the property and is located 32 m SE of Mound 41. Its boundaries are subtle and an irrigation pipeline runs directly through the eastern side of the mound. It is important to note that, had the disturbance of the irrigation pipeline not been present, the mound may not have been observed or recorded. Despite its poor form and low stature, the surface scatter of artifacts on this mound contained the highest density of ceramic sherds observed on this property, which can also be attributed to the disturbance from the irrigation pipeline. A sample of six ceramic sherds was collected. Mound 42 stands <.5 m tall and measures 9 m N/S x 8 m E/w.

Mound 43:

This mound is located in the NW quadrant of the property, located 10 m east of the property boundary. Its boundaries are well defined. Its top is flat and measures 6 m in diameter. The eastern side drops off abruptly while the western side exhibits a more gradual slope. Visibility is low due to thick grass and other vegetation. Despite this ceramic sherds, marine shell, and building fill were observed. To the north of this mound is a concentration of chich spanning 2.5 m and to the south is a rock alignment oriented E/W and measures 3 m long. At the easternmost point of the rock alignment there is a concentration of larger rocks. The rock
alignment and associated rock concentration may have served as a patio area for the mound, similarly to that observed on Mound 11 at the site center (see Glover and Rissolo 2015 – Conil Informe) Two rim sherds and a vessel support were collected from this mound and it is the largest feature on the property. Mound 43 stands 1.5 m tall and measures 12 m N/S x 14 m E/W.

Mound 44:

This mound is located in the SW quadrant of property and is 50 m NW of the livestock corral in the center of the property. The mound seems to have been run over by a number of motorized vehicles and plows. The damage has resulted in bringing inner fill and ceramic sherds to the surface of the mound. The unaffected areas are covered in thick grass and shrubbery. Both the inner and outer boundaries are well defined, with the inner boundary measuring 5 m in diameter. Mound 44 stands 1 meter tall and measures 15 m N/S x 12 m E/W.
Figure 7.4 Survey Area 2
7.4 Survey Area 3

This property was surveyed in both the 2016 and 2017 field seasons. A section of this property was also surveyed by members of PCE in 2014. During this time they located and mapped Mounds 28, 29, and 30 (Glover and Rissolo 2015). The area is located 1.4 km NW of the site’s acropolis and measures 17 ha (see Figure 7.6). The land is used mainly as a pasture for cattle and horses. Similarly to the previous survey area, there is a barn and workshop located in the center of the property.

During the 2016 survey eight mounds and three possible mounds were identified and recorded. The owner had then informed us of a *chultun* located in the NW quadrant of the property and took us to it. Though we were able to locate and collect a data point at the chultun, much of this section of the land was not suitable for pedestrian survey due to the presence of dense brush and zero ground visibility. In the 2017 field season, this property was revisited because this section had been recently burned and cleared. As a result, five new mounds were located and documented. The findings from both of these surveys are described below:

Survey Area 3 can be divided into four quadrants:

NE: Mounds 28 and 29
SE: Mounds 30, 50, 53, 54, 55, 56, and 57
NW: Mounds 59, 96, 97, 98, and 99
SW: Mounds 60 and 95

**Mound 28:**

This mound was first recorded in 2014 by members of PCE and was revisited and mapped in the summer of 2016. It is located on a natural rise in the terrain. All visible ceramic
sherds that were observed were severely eroded. Mound 58 stands <.5 m tall and measures 14 m N/S by 15 m E/W.

**Mound 29:**

This mound was first recorded in 2014 by members of PCE and was revisited and mapped in the summer of 2016. It is clearly defined on its north and eastern sides, but less so on its southern edge. It is located 6 m west of the property boundary and is covered with a moderate amount of vegetation, making surface visibility low. Despite this, a moderate amount of ceramic sherds and marine shell were visible and a surface collection was made. This mound is oblong in shape, stands <.5 m tall and measures 18 m N/S by 14 m E/W.

**Mound 30:**

This mound was first recorded in 2014 by members of PCE and was revisited and mapped in the summer of 2016. This mound has many small trees growing on it (see Figure 7.5). Its boundaries are clearly defined, but the eastern end is slightly eroded. Photos were taken to document the unusual vegetation. Mound 30 measures stands .5 m tall and measures 20 m N/S by 17 m E/W.

![Figure 7.5 Mound 30](image-url)
**Mound 50:**

This mound is located 40 m SE from the center of the property. It is clearly defined, has observable ceramic sherds, marine shell, and chich fill. Mound 50 stands .5 m tall and measures 20 m N/S by 16 m E/W.

**Mound 53:**

This mound is adjacent to a central fence line (oriented E/W) that separates the property into quadrants. It is covered in vegetation making visibility low. Despite this two large conch shells were clearly visible in the NE portion of the mound. It is possible that Mounds 53 and 57 are in association with each other, as they are relatively closer to each other than the other mounds located in this quadrant (45 m apart). Mound 53 stands .5 m tall and measures 16m N/S by 15 m E/W.

**Mound 54:**

This mound is heavily eroded and has a low concentration of chich fill, sherds, and marine shell. Despite this, there is a cluster of conch shell at the center of the mound. It is clearly defined on its western boundary. Exposed bedrock is present on its southern and eastern sections. Mound 54 stands .5 m tall and measures 14 m N/S by 13 m E/W.

**Mound 55:**

This mound is located 20 m west of the central fence line (oriented N/S) and 5 m NE of a bedrock outcrop. Mound 55 stands < .5 m tall and measures 15m N/S by 15m E/W.

**Mound 56:**

Both the inner and outer boundaries of this mound are clearly defined. It measures 16 m N/S by 15 m E/W and is 1 m tall.
**Mound 57:**

This mound is located c. 30 m NE of Mound 50. Its boundaries are well defined, but the eastern side exhibits more erosion than the western side. A surface collection of 2 ceramic sherds was made. A scatter of ceramic sherds and chich continues to the east for another 15 m. It is possible that the area could have been a patio or plaza; however, it could also be the result of ongoing agricultural practices which employ mechanized plowing. Further investigation and possibly excavation is warranted to arrive at a convincing conclusion for either of these hypotheses. Mound 51 measures 25 m N/S by 15 m E/W and is between 1.5 and 2 m tall.

A mound is associated with Mounds 50 and 51. Its boundaries are not clearly defined, and it is quite low. It contains scattered chich fill, sherds, and some bedrock on its northern end.

**Mound 59:**

This is a subtle, low mound located in the NW quadrant of the property. This section was overgrown with dense shrubbery and ground visibility was highly. Despite this, eroded ceramic sherds were observed, but not collected. Mound 59 stands .5 m tall and measures 16 m N/S x 15 m E/W.

**Mound 60:**

This is a subtle, low mound that is bisected by a fence line on its northern side. A high density of vegetation made surface visibility low, but the damage from the fence revealed chich fill, ceramic sherds and marine shell, leading us to define this feature as a mound. A large bedrock outcrop is adjacent to the mound on its SW side. Mound 60 stands <.5 m tall and measures 12 m N/S x 10 m E/W.
Figure 7.6 Survey Area 3
7.5 Survey Area 4

This area was surveyed during the 2016 field season. It was also surveyed during the 2014 season by members of PCE. During this season, Mound 20 was identified and documented. The area surveyed is a palm forest located directly east of Conil’s site core and measures approximately 48 hectares (see Figure 7.7). Vegetation here is very thick, making navigation and visibility a challenge. Due to this, the area could not be surveyed in its entirety and opportunistic methods were used, and number of cattle trails were used to explore the area. During the survey, chich and artifact scatters were observed, but very few mounds were identified. Three mounds, one chich mound, and one possible mound were located.

Mound 61:

This mound contains a large amount of building material and chich fill. Many ceramic sherds along with other artifacts were observed and a small sample was collected. A net weight and a piece of obsidian were included in this collection. Mound 61 has well defined boundaries but has been damaged due to stone robbing. Evidence of this was observed to the west of the mound, where a pile of removed building fill was located. There is a rock alignment on the southern end of the mound, the extents of which were not found due to a leaf cutter ant colony located atop of it. Mound 61 stands >.5 m tall and measures 8 m N/S by 5 m E/W.

Mound 62

This mound is located near the boundary of the palm forest. Its southern side has been built into a landform, and its northeastern end seems to have a terraced component. Many large building stones and chich fill were present along with many ceramic sherds and marine shell fragments. A representative sample of four ceramic sherds was collected. In the surrounding area, small chich mounds and slightly, elevated artifact scatters were observed. It is possible that...
these were associated with the structure and could be either destroyed mounds or evidence of a plaza. Further exploration around this mound is advised. Mound 62 stands 2.5 m tall and measures 24 m N/S by 15 m E/W.

**Mound 65:**

This is a wide, low mound with a high density of ceramic sherds and chich fill. A surface collection of five ceramic sherds was made. Mound 63 measures stands <.5 m tall and measures 16 m by 17 m E/W.
Figure 7.7 Survey Area 4
7.6 Survey Area 5

This survey area was originally mapped by Glover (2006). He located five mounds and named the area Zanja Pech. The property was surveyed again in 2016 and briefly revisited in 2017. It is located 4.5 kilometers SE of Conil’s acropolis and is measures 4.3 hectares. The PCE team speculates that Zanja Pech could possibly be a satellite settlement, or suburb of Conil. Four new mounds (64, 66, 69, and 70) were located and recoded during the 2016 field season, and one mound (127) was identified during the 2017 field season. These mounds are numbered as part of the continuing list used for Conil and are not included in the mound list for Zanja Pech (see Figure 7.11).

This property has been heavily modified for agricultural and mining purposes. The area is currently well maintained, which provides great visibility. The only exception to this is in the NW quadrant, which is densely overgrown and difficult to navigate. A portion of this area has been quarried, which leaves the southern wall of ZP Mound 2 completely exposed (see Figure 7.8).

The entire SW quadrant of the land is dedicated to orange and lime orchards. Chich and other fill has been scattered throughout this section of the property and there are areas of exposed
bedrock. It is very possible that there were more mounds constructed here, but have been destroyed in more recent years.

**Zanja Pech Mound 2**

This mound was identified and documented as Mound 2 by Glover (2006) and revisited in 2016 to be remapped. In 2017 a small off structure test unit was placed in its vicinity. The Mound is completely exposed on its southern side due to the presence of a small sascab quarry on the property. Dense forest and vegetation cover the rest of this mound. Zanja Pech Mound 22 stands 1.5 m tall and measures 17 m N/S by 22 m E/W.

**Zanja Pech Mounds 3 and 4**

These mounds were originally identified and mapped by Glover in 2006. They were revisited and remapped in 2016 are described below:

**Zanja Pech Mound 3:**

This Mound is located in the center of the property and is oriented NE. It is covered in cacti, making ground visibility low. Very few eroded ceramic sherds were observed here. ZP Mound 3 has definitive boundaries, stands 1 meter tall, and measures 16 m N/S by 17 m E/W.

**Zanja Pech Mound 4:**

This mound is located 2.5 m east of ZP Mound 3 and is slightly taller than its cactus covered neighbor. There is a road which has cut off its northern end making its boundaries slightly less defined, however, its southern side remains intact (see Figure 7.9). Very few eroded ceramic sherds were observed on the mound. ZP Mound 4 stands 1.5 m tall and measures 14 m N/S by 14 m E/W.
Mound 64:

This mound is located in the SW quadrant of the property. Its fill and building materials are larger than those observed in other areas surveyed at Conil. The center of this mound is sunken in, which could be the result of a tree fall or stone collecting. Despite the depression in the center, boundaries of the mound are clearly defined. Few artifacts and ceramic sherds were observed. Mound 64 stands <.5 m tall and measures 10 m N/S by 10 m E/W.

Mound 66:

Mound 66 has the highest concentration of sherds and is the only mound on this property where marine shell was observed. A sample collection of seven ceramic sherds was made from the mound. There is a 2 meter wide stone linear feature which extends 15 m to the south of this mound. Mound 66 stands .5 m tall and measures 11 m N/S by 10 m E/W.

Mound 69:

This mound is located roughly 25 m NE of ZP Mound 4 and has taken a considerable amount of damage. The middle of the mound is collapsed, most likely due to looting activities. It is covered in grass and trees and very few sherds were observable as a result. There are remnants
of a partially intact retaining wall on its western side. Mound 69 stands 1 meter tall despite the
depression in the center and measures 12 m N/S by 12 m E/W.

Mound 70:

This mound is the easternmost mound on the property. It is coved in thick, dry, dead
grasses. Despite the low ground visibility, clear plow scars were observed along the top of the
mound. It has clearly defined boundaries, stands .5 m tall and measures 10 m N/S by 12 m E/W.

Mound 127:

This mound was identified during a general survey of the areas surrounding Conil. Originally this mound was thought to be Zanja Pech’s Mound 1. Unfortunately its location does
not coincide with the description or the map created in 2006. This mound is easily recognizable
from the road, 55 m north of the mound. Another road (oriented N/S) bisects this mound, the
structure fill on the sides of this road was observed and photographed (See Figure 7.10). Mound
127 stands 1.5 m tall and measures approximately 20 x 20 m.

Facing east, from the mound there seems to be another mound cluster associated with
Zanja Pech. It may be productive to survey this area in future field seasons.
Figure 7.10 Fill from Mound 127
This property was previously surveyed by the PCE team in 2014 (Glover 2015) and was revisited during both the 2016 and 2017 field seasons of this project. In the 2014 field season, a cluster of mounds was documented, but the entirety of the land was not surveyed. During the 2016 survey, a total of four additional mounds and what appeared to be the remnants of a wall were identified and mapped (see figure 7.12). Another feature mapped during this season was a square rock alignment on the edge of the sabana.

Excavations within this survey area during the 2017 season consisted of a 4 x 4 m excavation into Mound 23; the results of which are being processed at this time. While the
excavation was being conducted, the area within wall was resurveyed and mapped in order to produce a more in depth map of this very interesting survey area. During this session of the mapping process, two new mounds were documented and three new possible mounds were recorded. The results of this map suggest that this survey area was the most densely populated area within Conil. Survey Area 6 is only .5 km north of Conil’s ceremonial center and measures 33 ha, however the area within the boundaries of the wall is only 6.5 ha.

Mound 22:

This mound is the westernmost mound within the wall. It is low with ill-defined boundaries and very few artifacts present at the surface. Mound 22 stands .5 m tall and measures 17 m N/S x 18 m E/W

Mound 23:

Mound 23 was originally documented as having a total basal area of 10 m x 10 m, however, after three investigations of the mound and the surrounding areas, it appears to have been much more substantial than previous recordings indicate. The mound has an extension to the northeast, on the western edge there is what can only be described as a super structure, at the bottom of which is a large facing stone. Excavations into this structure uncovered a series of plaster floors, which indicate that there were multiple construction phases associated with the structure and that it was very likely a public building or temple.

Despite how impressive the mound would have been in the past, it is quite destroyed in many areas. There is a trench in the center of it, and on the northern half there is a large hole in the center. The destruction to the mound is what led to much confusion during the initial investigations of the survey area. For these reasons the measurement of Mound 23 will be split
into two descriptions. The southern half of Mound 23 stands 2 m tall and measures 24 m N/S x 19 m E/W. The northern half of Mound 23 stands 1 m tall and measures 27 m N/S x 41 m E/W.

Mound 24:

This mound is 10 m northwest of Mound 23. It has a fair amount of damage and there is a large dip in the center of the mound. Despite this, marine shell and ceramics were identified within the construction fill. Mound 24 stands approximately 2 m tall and measures 20 m N/S x 23 m E/W (Glover 2015).

Mound 71:

Mounds 71 was originally thought to be a possible mound due to its small stature in comparison to other mounds in the area (Personal communication with Glover 2016). Upon revisiting the area it became apparent that it should be recorded as a mound. It is rectangular in shape and some ceramic materials were identified on it. Mound 71 stands 1 meter tall and measures 11 m N/S x 16 m E/W.

Mound 72:

The northern boundary of this mound has eroded significantly and it is hard to distinguish its boundaries. It is located adjacent to Mound 160 and stands 1.5 m tall and measures 14 m N/S x 17 m E/W.

Mound 73:

This is a low mound with many marine shell fragments that have been incorporated into its fill. Mound 73 stands .5 m tall and measures 16 m N/S x 14m E/W.

Mound 74:

This is the only mound within this survey area that is not within the boundary of the wall. It is a low mound with great visibility. Marine shell and ceramic materials were easily observed
at the surface but were not collected. Mound 74 stands < .5 m tall and measures 17 m N/S x 16 m E/W.

**Mound 159:**

This is the northernmost mound within the survey area and is located along the margins of the adjacent sabana. The southern edge of the mound is poorly defined, but the rest of the mound is well pronounced against the landscape. Mound 159 is rectangular in shape and stands > .5 m tall and measures 29 m N/S x 19 m E/W.

**Mound 160:**

This mound was documented in 2014 by members of PCE (Glover 2015) but was not given a number. The Mound was referred to as ‘Shell Mound’ due to the fact that there were many large conch shells (in one team member’s field book they are described as “the size of babies,” which is accurate). It is located between Mound 160 and 722. Mound 161 stands 1 m tall and measures 15 m N/S x 16 m E/W.

**Wall Feature:**

The surrounding wall on Survey Area 6 was fist observed during the 2016 field season and was originally thought to have been the remnants of a sacbe. Only 20 m of the feature were traceable as it does not stand taller than .5 m at any portion of it. This is most likely due to the feature being deconstructed and repurposed in more recent times. In 2017 during a survey of the area, Glover identified the feature and documented its boundaries. A small .5 m x .5 m excavation pit was placed in the wall in order to see if the feature was a sacbe or a wall. The test pit revealed copious amounts of chich fill, but no sascab or plaster, leading to the deduction that this feature was in fact a wall.
Rock Alignment:

At the edge of the sabana, near where reported canals have been dug is an unusual rock alignment. This feature is no longer than 2 m x 2 m and has been interpreted as being the remnants of a retaining wall atop this feature would have sat a tiny shrine, which were common during the Postclassic period. This is interesting, considering the dense cluster of large mounds that are surrounded by a wall, mangroves, and swamp.

Based on the attributes of this area, it appears that this was an important neighborhood of Conil that may have been a place of pilgrimage or religious significance.

![Figure 7.12 Survey Area 6](image)

7.8 Survey Area 7

A large portion of this property was surveyed during the 2016 field season and a smaller section was surveyed during the 2017 season. In previous years, the PCE team had flown UAVs
over cleared areas of this property and identified two mounds (Mounds 25 and 26) (Glover 2015:16). These were described in the report but had not been mapped.

This property is located 2.4 km SE of Conil’s acropolis and measures 14 hectares. A large portion of this property is densely forested and sectioned off as a wildlife refuge. As a result, that area has yet to be surveyed. However, the rest of the property has been cleared and is used as a pasture, which was surveyed for this project. Similarly to Zanja Pech, it is not clear whether the cultural remains located in this area can be considered to be a satellite settlement of Conil. During the surveys from the 2016 and 2017 field seasons, eleven mounds, three possible mounds, a single chich mound, and a linear feature measuring 25 m long were documented and mapped on this property (see Figure 7.14).

**Mound 25:**

This is one of the mounds identified by members of PCE in the 2014 field season (Glover 2015:16). It was mapped during the 2016 field season. The mound is clearly defined with good ground visibility. Eroded ceramics were observed but not collected. The northern side of the mound was damaged, which is most likely due to the nearby fence line, located only 3 m north of the mound. Mound 75 measures 15 m N/S by 15 m E/W and stands 1 m tall.

**Mound 26:**

This is the other mound identified by members of PCE in the 2014 field season (Glover 2015:16). It was mapped during the 2016 field season. This mound is located 15 m west of Mound 83 and is the largest, most pronounced mound within the cluster. A low density of eroded ceramics were observed. Mound 84 measures 16.5m N/S x 18m E/W and stands 1 m tall.
Mound 76:

This mound is located 20 m west of Mound 75. It has been damaged due to ongoing plowing of the land. No cultural materials were observed. Mound 76 measures 8 m N/S by 10 m E/W and is .5 m tall.

Mound 77:

This low mound is bisected by a fence. The fence runs N/S and crosses the mound on its western side. Mound 77 measures 9 m N/S by 5 m E/W and is less than .5 m tall.

Mound 78:

This mound has clearly defined boundaries and has a pronounced flat top which also has clear boundaries. High concentrations of chich, marine shell and ceramic sherds were observed and a sample of four ceramic sherds was collected from the surface. Mound 78 measures 10 m N/S by 14 m E/W and stands 1 m tall.

Mound 79:

This mound is located 11 m SW of Mound 78 and exhibits a high level of destruction, the middle is sunken in and the northern boundary is heavily damaged. Though some shrubs and grasses are growing on the mound, visibility was high. Ceramics were present and a sample was made. Mound 79 measures 9 m N/S by 6 m E/W and is less than .5 m tall.

Mound 80:

This mound is bisected by a fence line on its southern side and exhibits even more destruction on its SE quadrant. Some shrubs and grasses were present, but ground visibility was high. Eroded ceramics and chich fill were observed but no collection was made. Mound 80 measures 12 m N/S by 10 m E/W and is .5 m tall. A linear feature is located 10 m north of this
mound. It is approximately 3 m wide and oriented E/W. The feature spans 25 m. No sherds were observed.

**Mound 81:**

This is a rectangular, low mound with some eroded ceramic sherds and chich fill. Mound 81 measures 6 m N/S by 8 m E/W and is less than .5 m tall.

**Mound 82:**

Mounds 82, 83, and 84 are considered to be part of a mound cluster/patio group due to their close proximity to one another. This mound is located near a bedrock outcrop and exhibits clearly defined boundaries. No sherds were observed. Mound 82 measures 8 m N/S by 8 m E/W and is less than .5 m tall.

**Mound 83:**

This mound is located 15 m NW of Mound 82. Some ceramic sherds were observed, but a surface collection was not made. Mound 83 measures 9 m N/S by 8 m E/W and is less than .5 m tall.

**Mound 85:**

This is a low mound with a circular shape and contained no observable cultural materials. It measures 7 m N/S by 7 m E/W and is .5 m tall.

**Mound 86:**

This mound is severely damaged; a fence bisects it at the western end and the use of tractors on the land has created a large hole in it (see Figure 7.13). Despite this, the boundaries that have been spared are clearly defined. Mound 86 measures 8 m N/S by 10 m E/W and stands .5 m tall.
Figure 7.13 Mound 86. Note the destruction to the southern half.

Mound 87:

This mound is located in a low-lying area of the property just south of a dried pond. During the rainy season, this depression does retain water according to the landowner. No cultural materials were observed on or around the mound. Mound 87 measures 8 m N/S by 7 m E/W and is 1 m tall.
7.9 Survey Area 8

This survey area stretches 340 m east from Conil’s acropolis and is 17.5 ha. The area is covered in dense and thorny vegetation and young planted palm trees. For the 2016 survey, there was an attempt to cut *brechas* oriented N/S every 20 m across the property. Unfortunately, due to time constraints, only six transects were cut and surveyed. Ceramics and marine shell fragments were observed scattered throughout the entire swath of land. However, the sheer density of vegetation made it impossible to determine if there were any mounds or other cultural features present. Only one definitive cultural feature was located. This, however, was originally documented and mapped by Glover (2006) as Structure 7. A ceramic jaguar head (see Figure 7.13) was recovered from the surface of this structure.
At the beginning of the 2017 field season the owner of this property, spoke with Jeffrey Glover, the PCE project co-director, and informed him that he had recently burned and cleared a portion of his land and that we had permission to complete our investigations. The northern portion of the property remained impassible due to the thick vegetation, however the southern portion had been cleared and cultural features were easily identifiable. In total, seven mounds, three possible mounds, a single chultun, and numerous rock alignments were observed and documented (see Figure 7.19). Most of the mounds in this area are low and do not exceed .5 m in height. However they are quite wide, averaging about 18 m in diameter.

Figure 7.15 Ceramic Jaguar Head. Found at the surface of Mound 87

Mound 88:

This mound has clearly defined boundaries and a high density of artifacts present at the surface. At its northern end there is a chich mound where an obsidian blade and what appears to be a Late Preclassic figurine head (see figure 7.16) were observed and collected. Other artifacts were present on the mound and a collection of ceramics materials along with and a single chert flake was made. Mound 88 stands 1 m tall and measures 30 m N/S x 45 m E/W.
Mound 89:

This mound is the smallest in the survey area. Yet, there is a pile of nicely cut stones located on the eastern side of the mound. There is also a rock alignment present on the western end. A photo was taken of the east side of the mound (see Figure 7.17). Mound 89 stands .5 m tall and measures 8 m N/S x 8 m E/W.
Mound 90:

This mound has poorly defined edges, but consists of a lot of chich fill with marine shell and ceramic sherds present at the surface. This mound is characterized by a chich mound to its west and a rock alignment located on the Southern end of the mound. There is also an “L” shaped rock alignment located on the N/O side for this mound. Mound 91 stands .5 m tall and measures 10 m N/S x 16 m E/W.

Mound 91:

This mound is located 30 m east of Mound 89. Artifacts are present on the mound in low density and there are old fence posts placed along the SW section. Mound 90 stands <.5 m tall and measures 18 m N/S x 13 m E/W.
Mound 92:
This mound is located 15 m East of Mound 89. Many ceramic sherds and marine shell are present at the surface and a single chert flake was collected from the mound. Mound 92 stands < .5 m tall and measures 17 m N/S x 18 m E/W.

Mound 93:
This mound is low and does not contain many artifacts or fill at the surface. It is surrounded by a high density of chich which extends 25 m to the North and West sides. Mound 93 stands < .5 m tall and measures 15 m N/S x 10 m E/W.

Mound 94:
This mound is located 29 m east of structure 7. There is a rock alignment located on the West end as well as a circular rock arrangement at the top of the mound. (see Figure 7.18). Many ceramic sherds were present at the surface and a small surface collection was made. Mound 94 stands 1 m tall and measures 25 m N/S x 25 m E/W.

Figure 7.18 Rock Arrangement on Mound 94
On the southern end of the property is a circle of large stones and chich. A photo was taken and it has been included on the map on the next page. The feature measures approximately 3 m in diameter.

**Chultun:**

On the eastern end of the property a chultun was identified. It is located to the southwest of Pmnd 29 and is characterized on the map as a small black point. No other cultural features were located in the vicinity.

![Figure 7.19 Survey Area 8](image)

**7.10 Survey Area 9**

This property is located .3 km from Conil’s acropolis and measures 45 hectares (see Figure 7.30). It was surveyed during the 2017 field season. This property is used as a pasture area for cattle and as a palm plantation. Large portions of the area were overgrown with thick impassible vegetation and were not able to be surveyed. The areas that were cleared enough to
survey had extensive plow damage. Due to the ongoing agricultural practices, there is a large amount of exposed building fill and artifacts that have been pulled from beneath the surface. It is possible that a number of mounds have been completely destroyed as a result. In future field seasons, it would be highly recommended that the entire area be explored in order to grasp a better understanding of the spatial distribution of mound features within the area and to document any cultural features before more damage occurs.

Mound 102:

This mound is quite large but has poor boundaries. Uprooted palms have exposed large amounts of building fill, marine shell, and ceramic materials (see Figure 7.21). A fence oriented N/S separates the west and east sides. To the west is a cattle pen and shelter (Figure 7.20); to the east are palms and pasture grasses. Both sides were photographed and are shown below. A surface collection of sherds was collected to be analyzed in the lab. Mound 102 stands 1.5 m tall and measures 40 m N/S x 35 m E/W.

Figure 7.20 Mound 102 View of Cattle Pin
Mound 103:

This mound has clearly defined inner and outer boundaries, rock alignments, and a high density of ceramic sherds. It is rectangular in shape and has small shrubs and palms growing on top of it. A fence oriented E/0 has destroyed a portion of its southern end and has left inner building fill exposed. Photos were taken to document the intact and destroyed portions of this mound. A general surface collection was made from some of the ceramic sherds on the mound. Due to the damage to the southern portion of the mound, boundary points were collected at the end of the slope in order to record the entire footprint of the mound. Mound 103 stands 2 m tall and measures 28 m N/S x 27 m E/W.
Mound 104:

This mound is characterized by a possible trench running N/S along the center with a long rock extension following this scar southbound for 20 m. The boundaries on the southern
portion of this mound are well defined, however, the northern end of this mound is completely missing and has been destroyed due to modern agricultural practices. Much like the two previous mounds, upturned roots expose fill and artifacts from the interior of the mound. Photos and a general surface collection were taken. Mound 104 stands 1 m tall and measures 30 m N/S x 22 m E/W.

Figure 7.24 Mound 104 View of Trench
Figure 7.25 Mound 104 Rock Extension to the South

Mound 105:

This mound is located 20 m southeast of mound 104 and 50 m southwest of mound 103. Its southern boundary has been heavily plowed. Despite this the mound has well defined interior boundaries with observable fill and artifacts at the surface. Mound 105 stands 1 meter tall and measures 28 m N/S x 35 m E/W.

Mound 106:

This mound is located in the northeastern quadrant of the property and stands prominently upon the landscape. It has been built on a natural bedrock outcrop and there is relatively low visibility due to tall grasses growing on the mound. Despite this there are observable artifacts and a long rock alignment on top of it. Mound 106 stands slightly higher than .5 m tall and measures 27 m N/S x 33 m E/W.

Mound 107:
This mound is located near the center of the property and has a large hole on its southwestern side. The exposed hole measures 1 m in diameter and the area around it is slightly depressed. It does not seem to be a chultun, although it does share some characteristics of one. This hole extends deep into the mound, exposing building fill. A photo was taken of the inside of the hole and the exposed construction (see Figure 7.26). The rest of the mound is covered in grasses and small trees (see Figure 7.27). Its boundaries are fairly eroded and the mound stands 1.5 m tall and measures 43 m N/S x 40 m E/W.

Figure 7.26 Mound 108, View of Hole Feature

Figure 7.27 Mound 108, General View
Mound 109:

This mound is low and wide, with a large scar oriented N/S, much like mound 104. It has been constructed upon a natural outcrop, which is observable on its southwestern end. A high density of chich, marine shell, and ceramic sherds were identified on this mound. Mound 109 stands slightly taller than .5 m and measures 30 m N/S x 42 m E/W.

Mound 110:

This mound is the largest structure on the property and has been identified as a platform with a superstructure constructed on top of it (Mound 110A). Large stones were found in its vicinity, which were photographed for documentation. A fence oriented E/W has been built on it, and in general the mound has been subject to a lot of damage. Palms have been grown and harvested on the mound. There are many shrubs and thorny secondary growth present on this mound as well.

On its northern end, the mound stands 4 m tall and steps up abruptly. It is large and prominent on the landscape with clearly defined boundaries (see Figure 7.28). On its eastern side, there is much damage due to the existing fence. There is an extension on this end which measures approximately 25 m. From its easternmost point, the mound is 40 m west of mound 109. To the south, the mound is tall and abrupt. No extension or damage seems to exist. On its western end, the mound slopes gently into a natural bedrock outcrop. Here the boundaries are difficult to observe and the structure does not exceed 4 m. The entire platform measures 58 m N/S x 80 m E/W. When including its superstructure, Mound 110A, Mound 110 stands 7 m tall. The rest of the structure stands at an average of 4 m tall.

Mound 110A:
This mound has been constructed atop Mound 110. From its peak, facing north, the acropolis of Conil is easily visible. There has been a pit dug into the top of this structure. It has a diameter of .5 m and does not appear to be formed from natural processes. On its eastern side at its base there is an extension which slopes into the platform Mound 110A (see Figure 7.29) stands 2 m tall and measures 25 m N/S x 35 m E/W

Figure 7.28 Mound 110. PCE members for scale
Mound 111:

This mound is located on the southern boundary of the property. There has been a road constructed through it and its southern boundary is located on a separate property (see Figure 7.30). In the road, there is much observable chich and ceramic sherds. Mound 111 stands <.5 m tall and measures 22 m N/S x 27 m E/W.
Mound 112:
This mound is located 23 m NE of Mound 110. It is covered in thick vegetation and vines. Despite the low visibility, it has clearly identifiable inner and outer boundaries. Mound 112 stands 2 m tall and measures 23 m N/S x 20 m E/W.

Mound 113:
This mound is characterized as being low and wide. It was only identified by a slight rise in the landscape and a sudden high density of chich and ceramic sherds. From this mound, the Conil acropolis is easily seen from across a field to the north. Mound 113 stands <.5 m tall and measures 25 m N/S x 27 m E/W.

Mound 114:
This mound is located only 30 m east of mound 113 and is almost identical in its characteristics to it. The only difference between the two is that this mound is slightly wider than Mound 113. Mound 114 stands <.5 m tall and measures 29 m N/S x 34 m E/W.

Mound 115:
This mound is located 82 m west of Mound 107. It is covered in small palms and some shrubbery. Though there is a low density of chich and artifacts present on this mound it has clearly defined edges and is easily identifiable on the landscape. Mound 115 stands .5 m tall and measures 28 m N/S x 28 m E/W.

Mound 119:

This mound is located in the northwestern quadrant of the property. A number of animal burrows have exposed interior chich, marine shell, and ceramic sherds. At its surface many large whole marine shell and a single piece of obsidian have been identified. Its southern end has been severely damaged due to ongoing agricultural practices, similarly to many mounds on the property. Mound 119 stands 1 m tall and measures 20 m N/S x 18 m E/W.
Figure 7.31 Survey Area 9
7.11 Survey Area 10

This property of land is located 2 km west of Conil’s acropolis and measures 1.8 hectares. The land is used primarily for agriculture. It is characterized by fruit trees and maize crops. There is a high density of chich and low hills throughout the property. Small portions of this area are covered in thick forest. A total of three mounds and one possible mound were identified during the survey (see Figure 7.32). Photos were taken of the property and a general collection of surface artifacts was made.

   Mound 120:

   This is a small low mound found just off of the cleared area of the property. There is poor visibility at its surface, but it has definitive boundaries and large stones mixed in with chich fill. Mound 120 stands .5 m tall and measures 11 m N/S x 13 m E/W.

   Mound 121:

   This mound is located in the forested area of the property and is characterized by many trees growing on top of it. There is a fence oriented E/W located on the center of the mound. Though there is much leaf litter atop the mound, underneath it there is a high density of ceramic sherds and marine shell. Mound 121 stands at just under 1 m tall and measures 14 m N/S x 12 m E/W.

   Mound 122:

   This is a low mound found in a cluster of low hills and chich scatters. This is the only concentration of chich in the area that contained marine shell and ceramic sherds at the surface level. This mound also has definite boundaries, whereas the other hills in the area seem to be natural landforms. Mound 122 stands at .5 m tall and measures 10 m N/S x 13 m E/W.
This property is located .3 km west of Conil’s acropolis and measures 17.5 hectares (see Figure 7.34). It is used primarily as a cattle pasture, however, there are large portions which are covered in palm trees. From the road, there was spotted what appeared to be a large structure. The landowner was contacted and permission was granted to survey the property. A total of 6 mounds and two possible mounds were observed and documented.

Mound 132:

This mound is visible from the road, 170 m away. It is a large platform with what seems to be a sunken patio in its center. This depression measures approximately 20 m in diameter. Though there is a road oriented E/W and two fences constructed this mound, it has clearly defined inner and outer boundaries and most likely was a substantial structure at the site. On its
eastern side, there seems to be an eroded superstructure (132A). Mound 132 stands 2.5 m tall and measures 98 m N/S x 113 m E/W.

Mound 132 A:

This mound is located atop Mound 132 on its eastern side. It is subtle on the structure and seems to be severely eroded. It is characterized by a gentle slope on the top of the platform to the north, a flat top, and another gentle slope on the southern end of the platform. It is rectangular in shape and appears to follow the eastern side of the platform (see Figure 7.33). At its tallest Mound 132A stands at 1.2 m tall and at its shortest it stands at .5 m tall and measures 43 m N/S x 20 m E/W.

Figure 7.33 TIN of Mound 132
Mound 133:
This mound is located 10 m east of the western boundary of the property in a dense palm forest. Some large stones and boulders are present near the mound. The mound has been constructed on a natural bedrock outcrop that is visible on the northern end of the mound. Younger trees growing on the mound have pushed artifacts and ceramics to the surface. Mound 133 stands 1 m tall and measures 24 m N/S x 20 m E/W.

Mound 134:
This mound is located in the southeastern quadrant of the property which is made up of a densely forested area. There are many trees growing on the mound. Despite the low visibility, a rock alignment oriented N/S was identified near the center of the mound. Mound 134 stands .5 m tall and measures 25 m N/S x 23 m E/W.

Mound 135:
This mound is located in southeastern quadrant of the property. It is a large and low mound with a high density of chich and eroded ceramic sherds. It is characterized by being rectangular in shape and having a large amount of secondary growth on it. Mound 135 stands .5 m tall and measures 32 m N/S x 28 m E/W.

Mound 136:
This mound is low oblong in shape and contains a high density of cultural materials at the surface. Its subtle boundaries are difficult to define. It appears that the extension of the mound to the northeast could have been a patio area or an area where a number of activities were performed. This is suggested by the number and types of materials in the area. However, because of the modern agricultural practices in the area, it is also possible that this could be the result of
plowing and farming. A general surface collection was made consisting of chert and ceramic sherds found on the mound. Mound 135 stands <.5 m tall and measures 34 m N/S x 28 m E/W.

Mound 137:

This mound is located along the northern property boundary of the survey area. It has poorly defined boundaries, but has been assigned a mound status due to the high density of chich, ceramic material and marine shell found at the surface. A general surface collection was made. Mound 137 stands .5 m tall and measures 17 m N/S x 22 m E/W.
Figure 7.34 Survey Area 11
7.13 Survey Area 12

This area is a recently burned pasture measuring 20 ha and is located .5 km NW of Conil’s acropolis. There are many bedrock outcrops in on this property which do not appear to have mounds or other cultural features constructed on top of them. Ground visibility on this property is good, and there is a high density of ceramic sherds and marine shell scattered throughout the area. Only three mounds and five possible mounds were identified on this property, despite the high density of artifacts present throughout the area (see Figure 7.35). A surface collection of ceramic sherds was made during the survey.

Mound 140:

This mound is located 54 m north of a large laguna just south of the property. In previous field seasons, this feature was recorded as ‘Pmnd 2.’ Mound 140 has been constructed on a natural bedrock outcrop, which is exposed on its eastern side. A fence oriented N/S has been built on top of this mound, and the posts have disturbed some of the construction fill. This has exposed chich, ceramic sherds, and marine shell fragments. Mound 140 stands 1 m tall and measures 29 m N/S x 35 m E/W.

Mound 145:

This is the largest mound on the property and is completely covered in trees and secondary growth. It is located 50 m west of Mound 140. On its western side, there is considerable damage, as a large portion of the mound is missing. There is a high density of boulders, chich fill, and large marine shell (measuring 12-20 cm long). Photos were taken of the damaged side. Mound 145 stands 2 m tall and measures 25 m N/S x 30 m E/W.

Mound 157
This mound is a destroyed mound, characterized by a scatter of chich fill and ceramics in the northern quadrant of the property. Mound 134 stands <.5 m tall and measures 20 m N/S x 20 m E/W.

**Figure 7.35 Survey Area 12**

### 7.14 Survey Area 13

This area encompasses the property south of Chiquila’s cenote, which is just north of Survey Area 3. The area consists of a thick forest spanning 19 ha adjacent to a sabanja. Due to the thick vegetation, seven *brechas* were cut (oriented N/S, see Figure 7.37) in order to explore the area. In total, only four mounds were located (see Figure 7.36), but there may be more hiding in this area. Due to time constraints the *brechas* were spaced far apart, making it likely that some cultural features could have been missed.
Mound 141:

This mound is easily spotted in the dense forest, 15 m west of the brecha. It is low, but clearly defined and contains chich fill, ceramic sherds, and marine shell. Mound 141 stands .5 m tall and measures 11 m N/S x 10 m E/W.

Mound 142:

This mound has two fences oriented N/S built on top of it. It is a low mound standing .5 m tall and measures 10 m N/S x 13 m E/W.

Mound 143:

This is a large, low mound constructed on a natural rise. It is covered in thick vegetation and young trees and a bedrock outcrop on its southern end. Mound 143 stands .5 m tall and measures 17 m N/S x 18 m E/W.

Mound 144:

This mound is located on the easternmost brecha cut in this area. Like the other three mounds it is covered in dense vegetation and young trees. Mound 144 stands >.5 m and measures 12.5 m N/S x 10 m E/W.
Figure 7.36 Survey Area 13
7.15 Survey Area 14
This area is located between the structure named “Punto Gallo” and Mound 21. A number of *brechas* were cut through the jungle in order to locate and identify settlements near these substantial mounds (see Figure 7.39). A total of 14 mounds were identified during this survey (see Figure 7.38), however the forest was quite thick and we cannot consider this area to be completely explored. On average, visibility was less than 5 m in any direction, and some *brechas* were placed as far apart as 90 m apart, again, due to time constraints.

Mound 100:

This mound is a low mound located just east of *brecha* 16. It has very little surface visibility and very few artifacts were identified at the surface. It is located in a thick forested area and contains many trees and secondary growth. Mound 100 stands <.5 m tall and measures 17 m N/S x 19 m E/W.
Mound 101:

This mound is located just west of Brecha 1, over 300 m north of Punto Gallo. It is surrounded by bedrock outcrops and has observable chich fill, ceramic sherds, and marine shell. Mound 101 stands 1.5 m tall and measures 17 m N/S x 20 m E/W.

Mound 108:

This mound is located 2 m east of the brecha and is completely engulfed in secondary growth and thick vines. After clearing the vegetation a large amount of chich, fill, and marine shell were visible at the surface. There is a high volume of ceramic sherds and a small matate on the mound. Mound 108 stands 1 m tall and measures 21 m N/S x 17 m E/W.

Mound 146:

This mound is located approximately 90 m northwest of Mound 21 and 35 m north of the road. It is built on a natural slope and covered in thick vegetation. There is a high density of ceramic sherds on the surface and a general surface collection was made. This mound has sloping boundaries and at its tallest point Mound 146 stands 1.5 m tall. At its shortest Mound 146 stands .5 m tall. It measures 28 m N/S x 22 m E/O.

Mound 147:

This mound is located in the road between Punto Gallo and Mound 21 and is approximately 130 m west of Mound 21. It was identified by a high density of crushed chich, ceramic sherds, and marine shell coupled with an abrupt rise in the road. The mound extends into the forest on both the north and south sides. Mound 147 stands <.5 m tall and measures 25 m N/S x 17 m E/W.
**Mound 148:**

This mound was identified just east of a northbound *brecha*. It is covered in many young trees and thick vines. There is a high density of ceramic sherds located on this mound despite the low visibility. Mound 148 stands .5 m tall and measures 12 m N/S x 10 m E/W.

**Mound 149:**

This mound is located directly west of a *brecha*, near the boundary of a cleared portion of the forest. Mound 149 stands > .5 m tall and measures 14.5 m N/S x 12 m E/W.

**Mound 150:**

This mound is located at the intersection of two *brechas*. It is a low mound and covered in secondary growth, vines, and small trees. The mound has good boundaries and observable chich fill, ceramic sherds, and marine shell. Mound 150 stands .5 m tall and measures 13 m N/S x 13 m E/W.

**Mound 151:**

This mound was identified just north of a *brecha*. Like many of the other mounds found in this forest, it is covered in thick vegetation and there is low surface visibility. It has a good form and definitive boundaries. Mound 151 stands 1 meter tall and measures 16.5 m N/S x 17 m E/W.

**Mound 152:**

This mound is located 20 m north of Mound 146. It is very subtle and low on the landscape. It has unclear boundaries on the west and south sides, but is clearly defined on the north and east. Mound 152 stands .5 m tall and measures 12 m N/S x 11 m E/W.
Mound 153:

This mound is tall, but not very wide. There seems to have been extensive stone robbing from this location, the mound has a large depression in its center, exposing large amounts of fill. There is a large outcrop located west of this mound and a chich scatter to the south. Mound 153 stands >.5 m tall and measures 11 m N/S x 11.5 m E/W.

Mound 154:

This mound is located on the edge of a cleared field and the forest in the northernmost area that we surveyed. It seems to have been damaged by ongoing agricultural practices and plowing. There is a high density of chich fill, ceramic sherds, and marine shell on and around the mound. Mound 154 stands .5 m tall and measures 13 m N/S x 15 m E/W.

Mound 155:

This mound is located in the cleared field, 75 m northwest of Mound 154. There is a circular feature associated with it which measures 30cm in diameter. This mound is not uniform in shape and is taller on its northern side than its southern side. At its tallest Mound 155 stands >1 meter tall and at its shortest it stands .5 m tall. The mound measures 24 m N/S x 25 m E/W.

Mound 156:

This mound is located 30 m north of the brecha that extends west of Punto Gallo. The forest in this area was not as dense as the rest of the survey area and was explored extensively. There were no other mounds identified in its vicinity. This mound has good form, definitive boundaries, and identifiable artifacts located at the surface. Mound 156 stands 1 m tall and measures 14 m N/S x 10 m E/W.
7.15 Survey Area 15

This property is located 1.5 km west of Conil’s acropolis and is divided into two sections. Combined they cover an area of 1.5 ha. It is primarily used for agricultural purposes and the main crop is habaneros. No cultural features were identified on this property.

7.16 General Survey

The mounds documented in this section were located during opportunistic surveys around within and around Chiquilá. In total seven mounds were identified and mapped. Because this section spans the entire site of Conil, they will be represented on two separate maps in relation to the properties they are located closest to (see Figures 7.40 and 7.41).
Mounds 123-126 were identified during an opportunistic pedestrian survey southwest of Survey Area 7. Roads were walked and any cultural features present were identified and measured. No surface collections or photographs were taken during this survey.

Mound 138, 139, and 158 are located in the area between Survey Areas 3, 11, and 12. The owner of Survey Area 3 informed PCE members that there were ruins located SE of his property. This area was surveyed, and a single structure was located in 2016. However, it was not mapped or given a formal number. The area beyond this mound was later surveyed in 2017 and two additional mounds were documented. These appear to be associated with the mound clusters located within Survey Area 12

**Mound 123:**

This mound is characterized as a large abrupt bump in a road, which extends eastward into the forest. It has definitive boundaries and the road built on top of it contains high density of chich fill and eroded ceramic sherds. Mound 123 stands 1 meter tall and measures 20 m N/S x 18 m E/W.

**Mound 124:**

This mound is located in the forest near what appears to be a butchering site for cattle. The mound is small and low but has well defined boundaries and observable chich with marine shell. Mound 124 stands >.5 m tall and measures 12 m N/S x 10 m E/W.

**Mound 125:**

This mound is large and abrupt on the landscape located near the end of a path in the forest. The mound is covered in trees and secondary growth, making visibility poor. Mound 125 stands >.5 m tall and measures 15 m N/S x 17 m E/W

**Mound 126:**
This mound is located southeast of a small road on the edge of the forest. It is covered with trees and leaf litter. Mound 126 stands 1 m tall and measures 14 m N/S x 13 m E/W.

**Mound 138:**

This mound is situated on the edge of a palm forest in view of a natural lake, located 50 m from the mound. It is covered in tall grasses, making surface visibility low. On its northern end there are small animal burrows which have exposed some of the inner chich fill and ceramic sherds. Mound 138 stands .5 m tall and measures 21 m N/S x 28 m E/W.

**Mound 139:**

This mound is located 40 m north of Mound 138 and is 35 m west of a natural lake. Two intact marine shell were identified in the fill (17cm long each) along with a high density of chich fill and ceramic sherds. Mound 139 stands .5 m tall and measures 28 m N/S x 30 m E/W.

**Mound 158:**

This mound is located on a path that spans between the property of Don Mendoza (area 2) and Don Vicente (area 12). It has been heavily damaged and there is a large depression located in its center. Mound 158 stands 1 meter tall and measures 13 m N/S x 15 m E/W.
Figure 7.40 General Survey Area
8 ANALYSIS AND CONCLUSIONS

8.1 Introduction

The primary focus of this thesis research was to create a map of Conil and to explore the possible settlement patterns within and around the site (see Figure 8.1). With the data collected over two field seasons, I applied three popular settlement distribution models: the quadripartite, concentric zone, and the multiple nucleolus models, each of which can offer insights in regard to the lives of the ancient residents of Conil.
While settlement pattern models can provide a great deal of information, I wanted to explore other factors that may have influenced the organization of settlements within Conil. For this reason I chose to focus on aspects of the landscape such as the neighboring wetlands, the ocean, and nearby freshwater sources. These features of the natural environment would have been influential to some if not all of the residents of Conil.

Finally, I wanted to explore the possible associations that agents living at the site had with one another. In order to do this I observed different mound groupings as they related to Conil’s ceremonial center and to substantial mounds found at the site.

![Conil and Associated Settlements](image)

**Figure 8.1 Conil and Associated Settlements**

### 8.2 Settlement Pattern Models

As discussed above, the quadripartite, concentric zone, and multiple nucleolus models have been used to interpret settlement organization at a number of Maya sites. Understanding
how sites were organized and how they are reflected in these models can provide insight in regards to a site’s political, economic, and religious organization. Based on whether or not Conil’s settlement patterns relate to any of these models provides a better understanding of the agents who resided there. For example, the concentric zone model indicates that a society had a distinct ruling class, with those living closer to the royal residents being somehow more associated with the elites of the society. Likewise, if a site conforms to the multiple nucleolus model, the social order of the site can be interpreted as possibly more egalitarian or perhaps consisting of ruling lineages that shared power and as having different activity areas.

8.2.1 Quadripartite Model

As described in the literature by both Ashmore (1986, 1989, 1991) and Coe (1965), the quadripartite model refers mainly to the arrangement of monumental architecture within a site center, but also considers the arrangement of structures adjacent to sacbeob as they expand from the ceremonial center into the margins of a settlement. According to the quadripartite model there will be a specific geometry associated with the monumental architecture surrounding a site center. Representing the north from the south, there is usually a ball court, and four sacbeob radiating out from the site core (representing the axis mundi) in the cardinal directions.

After reviewing the maps produced by the Yalahau Regional Settlement Pattern Survey (YRSPS) (Glover 2006), it appears as though site centers within this region do not adhere strictly to this planning principle. However, they do display some components of quadripartite division. For example the monumental architecture described and mapped at the sites of Kimin Yuk (Figure 8.2) (Glover 2006:389,404) and San Ramon (Figure 8.3) (Glover 2006:432) seem to have been constructed in a way that reflects that division, as there are structures that are clearly located at points along the cardinal directions. These structures are situated around a cleared
central plaza, however there are no *sacbeob* radiating from the structures nor are there any ball courts that had been identified within these site centers, with the possible exception of a ball court located at San Ramon.

![Figure 8.2 Kimin Yuk (after Glover 2006, Figure 6.15)](image)
Site 27 - San Ramon

Figure 8.3 San Ramon (after Glover 2006, Figure 6.19)
At the ceremonial center of Conil there are four structures positioned at each of the cardinal directions. These structures are situated around an open area that measures approximately 20 ha, which is much too large for it to be considered a plaza. However, if Conil did have a population as large as 5,000 then this space may have utilized to support large crowds for ceremonies or market space.

When measured from south to north, the orientation of the two major structures (8 and 110) are within 3° east of due north. Further, when measured from west to east, the two major structures (132 and 2) are within 6° north of due east. Only one sacbe has been located at Conil and connects Structure 8 to Structure 1. This was identified and documented by members of PCE in 2014 (Glover 2015:9) (See Figure 8.4). Because there is a long history of stone robbing at Conil, it is possible that there were other sacbeob that connected all four of the monumental structures to one another. If this were the case, then these features have been completely deconstructed.
As described earlier, according to Ashmore (1991) the quadripartite arrangement usually contains a ball court, which demarcates the division between north and south. At Conil there is no central ball court (or any ball court for that matter), nor are there sacbeob radiating outward from the site’s center. Though this is contradictory to both Ashmore (1991) and Coe’s (1965) model, the absence of a ball court is typical amongst many sites within this region. From the data collected and the map of Conil’s monumental architecture, it seems as though the geometry of the ceremonial center loosely fits the quadripartite model.

8.2.2 Concentric Zone Model

Unlike the quadripartite model, the concentric zone model focuses on the organization of households and dwellings within a site. While the monumental architecture is a key component
in this model, it is only important in relation to its proximity to dwellings within a site. According to the model, a settlement will be more densely populated near monumental architecture and will become more dispersed further away from the site center.

After reviewing the maps produced by the YRSPS (Glover 2006), it appears that sites within the Yalahau region do not seem to adhere to this model. Many ceremonial centers within the region do not exhibit evidence of being densely populated (Glover 2006). Further, work conducted by Sorensen (2010:167), which included the use of statistical analysis to test some of the planning principles at T’isil, found that the site did not conform to the concentric zone model (see Figure 8.5). Based on the work conducted by Glover and Sorensen, it would be surprising if Conil conformed to this particular model as well. Further, when observing the map of Conil’s settlements, it appears that this model does not apply to the site (see Figure 8.6).

Figure 8.5 Map of T'isil (after Sorensen 2010: Figure 6.5)
In order to test this model I calculated the number of mounds per hectare in each survey area (see Table 1). What was interesting about this was the results from Survey Areas 12, 13, and 14. Each have a mound density of .2 per hectare, yet each area was found at varying distances from Conil’s main platform. Further, the survey area with the highest amount of mounds per hectare was Survey Area 1, which is located 1.8 km from the main acropolis. The survey area with the second highest density of mounds per hectare was Survey Area 5 (Zanja Pech), which is 4.5 km from the main acropolis. While this survey area is not technically within what is believed to be the boundaries of Conil, it is likely a subsidiary settlement of Conil and is therefore not included in these results. These data are surprising, because the areas with the highest density per hectare are not the survey areas with the most mounds, nor are they survey areas particularly
close to the ceremonial center. This inquiry does not support the concentric zone model, however, it should not be the primary inquiry to lean on.

Table 1 Mound density per hectare surveyed

<table>
<thead>
<tr>
<th>Survey Area</th>
<th>Size (ha)</th>
<th>Number of Mounds</th>
<th>Distance from Acropolis (km)</th>
<th>Number of Mounds per Hectare</th>
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<tr>
<td>1</td>
<td>4</td>
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<td>2</td>
<td>19</td>
<td>7</td>
<td>1.7</td>
<td>0.4</td>
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<tr>
<td>3</td>
<td>17</td>
<td>16</td>
<td>1.3</td>
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<td>48</td>
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<td>0.3</td>
<td>0.1</td>
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<td>0.2</td>
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<tr>
<td>15</td>
<td>1.6</td>
<td>0</td>
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</tbody>
</table>

At Conil, there are two features that indicate that Conil’s settlements do not conform to the concentric zone model. The first is the 8 m tall pyramid of Punto Gallo, (see Figure 8.7) that was originally identified as being an entirely separate site from Conil (Glover 2006:503). After revisiting Punto Gallo in 2014, members of PCE excavated a 1 x 1 m off-structure test pit in order to compare stratigraphic data between the structure and others at Conil. (Glover and Leonard 2015:38). Punto Gallo is located only 1.5 km from the center of Conil and there are a number of house mounds dispersed between the two. After mapping was completed, it was clear that Punto Gallo was at one time part of Conil. By showing that Conil contained at least two
distinct areas with monumental architecture, it becomes clear that Conil may not have been constructed according to this model.

Figure 8.7 Punto Gallo as it relates to Conil

The second feature at Conil that deviates from the concentric zone model consists of a cluster of mounds located within Survey Area 6. This cluster is bordered by mangroves to the north, a wall to the south and west, and the Sabana Zanja to the east. The area is located 1 km northeast of the Conil’s center and appears to have been an isolated ceremonial center or community (see Figure 8.8). This group is an outlier when compared to the rest of the site, as it is the only group that seems to have intentionally been disassociated from the rest of the site.
Due to the opportunistic nature of this survey and time constraints, there are a number of areas around the site that still need to be surveyed. Further it is important to note that 37 mounds (23% of the mounds found to be associated with Conil) are located within .5 km of the monumental architecture at the site. While this appears to provide evidence that supports the concentric zone model, I do not think it is conclusive. Perhaps when a complete survey is conducted the settlement model will be revisited. Because of this the concentric zone model cannot be completely eliminated at this point in time.

8.2.3 *Multiple Nucleolus Model*

The multiple nucleolus model is often applied to sites that have multiple ceremonial centers or activity areas that influenced the nature of the settlement. In this scenario, mounds are clustered in groups across an entire site with each group having its own central focal point. The
The clearest example of this model is the site of Coba (see Figure 8.9), which is organized into distinct neighborhoods and whose multiple sets of monumental architecture are connected by a network of *sacbeob* (Folan 1983: 52; Kintz 1983:179-180). Further, the densely populated site of Chunchucmil reflects this settlement pattern. According to Hutson et al. (2008), Chunchucmil contains a number of distinct activity areas and community boundaries. In the case of Chunchucmil these spaces are not tied to monumental architecture, but are reflected in the resident’s access to particular resources, such as obsidian.

![Figure 8.9 Map of Coba's Major Architectural Groupings (after Folan et al. 2009 Figure 1)](image)

As discussed above in relation to the concentric zone model, Conil has at least two separate areas where monumental architecture is present. Further, according to Andrews...
(personal communication with Glover) there were mounds located near the coastline that are understood to have been associated with Conil. In 2014 members of PCE excavated two test pits near the coast and found evidence of settlement within the area (Glover and Leonard 2015:138). This work furthers our understanding of the spatial extent of Conil’s settlements, however, the density of settlement along the coastline may never be understood fully. The modern town of Chiquilá is built atop this portion of the site, and any surface features of Conil have been completely whipped out.

Figure 8.10 Most likely settlement nuclei at Conil

From here it can be argued that there were up to three areas at the site that contained monumental structures with associated settlements. This indicates that Conil’s settlement
patterns are reflected by the multiple nucleolus model (refer to Figure 8.10). As previously mentioned, the town of Chiquilá resides in the very place where Andrews’s reported mound features were located. Unfortunately, there are no longer any visible signs of these structures.

In order to further test the multiple nucleolus model at Conil, I identified the larger mounds (≥ 1.5 m tall) and their associated mound groupings (see Figure 8.11). It is possible that these larger mounds were some form of public architecture or temple whose proximity to which other residents of the site would find ideal. Mounds that fit this criterion were Mounds 7, 20, 21, 23, 24, 31, 62, 103, and 145. Monumental structures were omitted from this portion of the study. Clusters of mound groupings were found to be associated with Mounds 7, 31, Mounds 23 and 24, and Mound 145.

Figure 8.11 Substantial Mounds at Conil
Mounds 23 and 24 (Figure 8.12) are the largest mounds identified in Survey Area 6 and are directly associated with the other mounds which have intentionally isolated themselves from the rest of Conil.

![Figure 8.12 Settlement Associated with Mounds 23 and 24](image)

Mound 7 (Figure 8.13) is located on the eastern boundary of the site center and is associated with a cluster of six mounds (see Figure 8.10).
Mound 31 (Figure 8.14) is located 1.5 km northwest of the ceremonial center and is centrally located within the parameters of Survey Areas 1, 2, and 3. While the area immediately surrounding this mound has not been surveyed, the areas within its vicinity are some of the most densely populated areas of Conil. It is possible that the mounds in the surrounding survey areas were associated with Mound 31.
Mound 145 (Figure 8.15) is located 650 m from Structure 8, which demarcates the northern portion of the ceremonial center and 98 m northwest of a freshwater *laguna*. There have been four mounds identified in its vicinity and appear to be in direct relation to both Mound 145 and the freshwater *laguna*.

![Figure 8.15 Mound 145 and Associated Mounds](image)

**Figure 8.15 Mound 145 and Associated Mounds**

It is important to discuss that gaps in the map that could be interpreted as areas void of settlements actually reflect areas of the site that have not yet been surveyed. Further, other settlement gaps in areas that have been explored are due largely to the poor terrain and thickly forested areas, in these cases visibility was too poor to identify any cultural features. Regardless of these issues, much of the data that has been collected does reflect the multiple nucleolus settlement model. This is due to the existence of discrete mound groups, such as the one found on Survey Area 6.
Other evidence of this model comes from excavation data from 2014, along the coastline pre-Columbian artifacts and evidence of settlement in the area were identified. Based on this we understand that Conil contained settlements as far north as the coastline. There is also the matter of Mound 21 and Punto Gallo. These substantial structures were most definitely a part of Conil, though their particular role played at the site is unknown. Based on these observations I feel that it is safe to conceive of Conil as fitting most closely with the multiple nucleolus model.

8.2.4 Conclusions

The application of these models to Conil is fairly difficult to do, due to the fragmented nature of the collected data. Although the data sets do not completely represent the entire settlement of Conil, there is still a great deal of information that can inferred from these data. For example, the geometry and orientation of the monumental structures within Conil’s ceremonial center indicates that there was some level of formal planning that went into the construction of the site. Based on Ashmore’s model (1991), we can interpret this plan as being reflexive of greater ideologies and worldview shared by the ancient Maya. Based on the size and form of the structures that make up the ceremonial center, it can be argued that the site core was constructed during the Preclassic.

Likewise, based on the mercantile traditions of the Postclassic, we can conceive of the members of Conil during this time as being successful merchants. The members of the site would have thought of themselves has having a ‘worldly’ perspective, unique from the Maya who settled further inland and were not exposed to people or goods from distant lands (Glover et al. 2012; Scholes and Roys 1948). With such statuses, and a means of providing for oneself and a family it becomes clear that the need for a ruling class to distribute goods and resources (like the
ruling class of the Classic) would not be of great importance to the residents of Conil during the Postclassic.

Some could argue that applying these settlement models are overly simplistic. After all, it is possible to have any combination of models at a given site, especially one occupied over a long period of time. Even Conil appears to have a combination of the quadripartite and multiple nucleolus models. The site center loosely reflects the quadripartite model, and a settlement distribution resembles the multiple nucleolus model. Further, these models are only useful when discussing elements of the built environment as they relate to one another. In order to obtain a more holistic picture of Conil it is imperative to go beyond these settlement models and to address other influences that could have impacted inhabitants at the site.

8.3 Environmental Influences

The natural environment plays a key role in the ways in which people chose to settle. For example, during the Preclassic period it was common for settlements to be constructed along the margins of seasonal wetlands (Dunning et al. 2002). This trend is true for the settlements at Conil as they are situated adjacent to the Sabana Zanja.
Figure 8.16 Settlements of Conil along the margins of Sabana Zanja

Although the wetlands provide a number of resources including freshwater, they may not have been a stable water source during the extensive dry seasons that lasted nearly half the year. This region has no rivers and a few freshwater lakes, which makes procuring a reliable, year-round source of water quite challenging. Individuals would (and still do) mitigate this issue by settling near a cenote (Scarborough and Gallopin 1991).

Another environmental factor that commanded attention is the ocean. During the Postclassic period, there was a drastic expansion in mercantile economies along coastal trade routes. This in turn, facilitated a wide scale migration to the coast of the Yucatan Peninsula. According the ceramic data at Conil, the site was abandoned during the Classic period and then repopulated during the Postclassic and stayed that way until well after Spanish contact. Based on the ethnohistoric evidence, the residents at Conil played an integral role in the mercantile economy that was so characteristic of the Postclassic.
It can be argued that this narrative of migrations to and from the region is based on accessibility to natural resources, such as those provided by the ocean. This section outlines how the settlements of Conil are spatially related to the neighboring wetlands, fresh water, and the ocean.

8.3.1 Freshwater Proximity

Because the northern Maya Lowlands are characterized by a stark dry season lasting nearly half of the year, access to a year round water sources would very likely have been a primary concern for the ancient residents of Conil. There are a number of other sites identified within the Yalahau region that avoided this issue by settling near a cenote. Some examples of this include T’isil (Sorensen 2010), Site 9 (Glover 2006:383), Nohoch Pich, which has a cenote east of the ceremonial center (Glover 2006:389), and Kimin Yuk, which has cenotes located on both the east and west of the ceremonial center (Glover 2006:404).

There are three immediate water sources that could have been available to the ancient residents of Conil. The westernmost source is a cenote, which is where the modern town of Chiquilá currently obtains its water. During particularly harsh dry seasons, even this reliable source can become strained. This cenote is located 2.5 km from Conil’s site center. The distance may have been prohibitive to a number of residents at the site.

The second freshwater source is approximately 1.5 km southeast of the cenote and is a large freshwater lagoon. This water source is located just over .5 km west of Conil’s ceremonial center, and appears to be a more central source of water for the entire site.

The final permanent water source available to the residents of Conil is located 4 km east of the site, in the middle of Sabana Zanja. It is a year round freshwater lagoon. Depending on how inundated the surrounding wetland is, reaching the lagoon would be quite challenging. It is
possible that the scattered settlements southeast of Conil were utilizing this source, as there appears to be no other immediate water source near these settlements.

Because the entirety of Conil has not been explored, it is possible that there are other sources of freshwater that have not been documented. However, according to the surface surveys and observations of aerial footage, there does not seem to be any additional cenotes, or lagunas from which people could access freshwater. It has been argued that inhabitants of this region could easily access the water table by digging wells (Winzler and Fedick 1995). However, none of these features have been found at Conil.

A portion of my fieldwork took place near the two most likely sources of water, near the western cenote and around the central laguna. In the area directly south of the cenote, only four mounds were identified within 500 m of the water source. To the west of the cenote, there is a

Figure 8.17 Reliable water sources at Conil
large wetland; the margins of this area were explored, but no cultural features were identified. Due to time constraints and lack of permission from landowners, the area directly north of the cenote was not surveyed. It is important to note that the mounds identified in the area directly south of the cenote may not be a representative sample of the settlement in this portion of Conil. The density of vegetation obstructed the visibility within this area and despite the *brechas* that were cut during the survey, much of the area was has yet to be explored. Regardless, based on what I have observed in this portion of Conil, it appears that the residents of the site did not prioritize settling in this area, which is incredibly unexpected.

![Figure 8.18 The Cenote of Chiquilá and Associated Settlements](image)

There are ten mounds within 500 m of the central *laguna*. This includes the cluster of mounds associated with Mound 145, located along the western edge of the *laguna*. It also includes the monumental structures Mound 132, and Structure 8, which make up the northern
and western boundaries of Conil’s ceremonial center. Although the areas directly adjacent to the
laguna are not densely populated, based on its central location within the site, I argue that this
water source was of importance to the residents of Conil.

On a survey in 2016 with Glover and a local guide, we ventured into Sabana Zanja to the
freshwater laguna. We were not able to identify any cultural features in the area, however, this
area could have been accessible to the smaller periphery settlements south of Conil.

8.3.2 Proximity to the Ocean

Ceramic evidence points to the earliest settlers calling this area home near the Middle
Preclassic (Glover et al. 2011b). During this time period, people most likely migrated from the
northwest region of the peninsula (Rissolo et al. 2005) as evidenced by the similar ceramic
traditions found at inland sites within the Yalahau region and other parts of the Yucatan.
However, evidence from Vista Alegre (Glover et al. 2012) reveals that other migrants may have
moved up the coast from Belize or the eastern Peten. While we do not have evidence of a
Middle Preclassic occupation at Conil, we do know that by the Late Preclassic, the Yalahau
region was densely populated and coastal resources certainly would have been valued due to the
abundance of resources provided by the ocean. The sea provided much needed subsistence in the
form of fish, mollusks, and conch (Barrera Rubio 1985:54). These critters not only provided
food, but were also used to create a number of tools that were used functionally, ritualistically,
and as personal adornment (Barrera Rubio 1985:55). Some of the tools found at the eastern
coastal site of Tulum that have been crafted from local materials include scoops, shell perforators
(Barrera Rubio 1985:56), scrapers and pendants (Barrera Rubio 1985: 57).

Later, during the Postclassic there was a large-scale migration to the coastline, as a
greater emphasis on trade and mercantile economy became a defining characteristic of this
region and time period. The coastline was dotted with a number of sites that were all linked together in a chain of trade networks (Glover et al. 2011a). Based on this interpretation of the Postclassic, Conil can be conceived of as an important site during this time period. Positioned strategically along this trade network, Conil gained access not only to goods, but to cultural ideas from across the Peninsula and beyond. According to Andrews (2002:144), Conil may have been the largest port site along the northern coast of the Yucatan peninsula.

Merchants traveling the coast often made stops at coastal shrines as part of a ritual pilgrimage, as there was a marked religious significance regarding water as well as the ocean (Freidel and Sabloff 1984; Scholes and Roys 1948). Elements of Conil that point to the religious landscape can be found not only at the ceremonial center, but within Survey Area 6. Along the eastern edge of Survey Area 6 is what has been identified as a dock feature adjacent to the Sabana Zanja (Glover 2015:19). On this feature is a small square rock alignment feature that is strikingly similar in size to a number of Postclassic shrines (Lorenzen 2003)). Further, it has been reported that there are canals running through the sabana that tie the coastline with areas as far south as the site of San Angel, 18 km south. It is possible that traders would stop at this area of Conil as they made their way southbound down these canals as part of a pilgrimage along this trade route (Leonard 2013:572). Though speculative, this may be one reason why this portion of the site is walled off from the rest of Conil.

8.3.3 Proximity to Wetlands

Preclassic settlements in the southern lowlands were primarily situated along the margins of seasonal wetlands that make up approximately 40-60 percent of the region (Dunning et al. 2002:269). However, the wetlands discussed in this area are dissimilar to those located in the Yalahau region. Because wetlands located in the northern lowlands, outside of the Yalahau
region are quite scarce, there is not a large body of material to compare Conil to outside of this region. Based on work conducted by Fedick et al. (2000) there is a convincing argument that strategic subsistence practices incorporated resources gathered from nearby wetlands. The Yalahau region has a number of sites that are located in fairly close proximity to the neighboring wetlands. Further, work conducted by Fedick et al. (2002) explored evidence of wetland manipulation for the use of agricultural practices. Later, Leonard (2013) conducted a regional survey to access cultural features located in neighboring wetlands. He found that nineteen out of twenty-five wetlands in the Yalahau had some evidence of rock alignments, contributing to various levels of wetland manipulation (Leonard 2013:510). Based on these findings we can assume that the inhabitants of Conil were utilizing the nearby wetlands for agricultural practices in some capacity.

Although time did not allow for an extensive survey along the margins of Sabana Zanja, two settlement clusters were observed in addition to Zanja Pech (first described by Glover 2006). Each are spaced approximately 1 km apart with the closest one to Conil’s ceremonial center located only 2.5 km southeast. This settlement was first identified in 2014 by members of PCE (Glover 2015), and was later surveyed and mapped within Survey Area 7. The farthest settlement is Zanja Pech, which is 4.5 km southeast of the Conil’s site center. The central cluster of mounds was identified during a general survey in 2017 and was spotted from the side of the road. These settlements do not contain monumental architecture, nor is there what can be identified as an intentionally planned layout within any of these three settlements. It is entirely possible these smaller settlements scattered along the margin of Sabana Zanja were associated with Conil and acted as suburbs or satellite sites.
Likewise, these site clusters on the wetland appear to resemble other settlements observed on the eastern site of the Yalahau region. For example sites 1-6 documented by Glover (2006) are situated along the eastern margins of an extensive wetland and consist of mounds that do not exceed 1 m in height (Glover 2006:353-354). As he mentions in his work, these sites may have been fragmented settlements that were associated with a larger center such as Xux or Rancho Carmalita (Glove 2006:354). These sites are significantly smaller than Conil, however the pattern is important to note when considering how Conil fits into the larger narrative of the region.

9 CONCLUSIONS, DISCUSSION, AND FURTHER WORK

9.1 Conclusions and Discussion

At the time of Spanish Contact, Conil had one of the largest settlements on the northern coast of the Yucatan Peninsula. This is evidenced in the data, as there are a number of monumental structures, large basal platforms, and superstructures that make up the site’s ceremonial center. Unfortunately, modern construction and agriculture coupled with the test of time have taken a harsh toll on the ruins of this site. Because of this, it is important to document what is left of Conil while it is still possible to do so.

Other than the work conducted by William T. Sanders (1955, 1960), Glover (2006), and PCE (2015), no efforts have been made to produce a map of the remaining settlements of Conil. Over two field seasons, I collected data and coordinates of a number of cultural features at the site. This fieldwork succeeded in covering a large amount of land and the production of a map of the remaining settlement features. With this information, I tested the available data against three popular settlement models (quadripartite, concentric zone, and multiple nucleolus).
With the criteria for the quadripartite model, I found that the ceremonial center of Conil loosely adheres to the sacred geometry often associated with quadripartite division found at Maya sites. This became apparent after field surveys resulted in identifying Mound 110 and Mound 132. With these two structures, I was able to better define the central area of the site. There are some aspects of the quadripartite model that are missing from the site, such as a central ball court. However, this expected because there are so few ball courts found in this region.

Applying the concentric zone model to the site did not yield clear results. For example, there are instances of monumental architecture at the site that are not associated with the ceremonial center. However, they appear to exist as isolated structures and not ceremonial complexes, such as Punto Gallo. Further, the survey areas of Conil with the highest densities of mounds and cultural features were found more than a kilometer from the ceremonial center. A number of substantial mounds have been found scattered throughout the site and appear to be in association with mound groupings. Based on these data, it seems that Conil did not have a concentric zone settlement pattern. Despite this, the highest number of mounds found at Conil are located within .5 km of the ceremonial center. This leads me to believe that it is quite possible that the concentric zone model may be able to be applied to the site. At this point, the model cannot be applied, but it can also not be entirely ruled out.

The same issues the presented themselves in applying the concentric zone model occur when attempting to apply the multiple nucleolus model. The application of the model at Conil can be attributed to two factors. The first is the presence of substantial mounds that are associated with mound groupings at the site. The second is the occurrence of monumental structures outside of the site core. If we are to take into account the evidence of a coastal
settlement, along with the multiple settlement groups found across the site, it can be argued that Conil had up to five settlement nuclei.

However, a number of factors can result in what appears to be a multiple nucleolus pattern. Take for example, the different occupational periods at the site. It is entirely possible that different areas of the site were occupied during different time periods. Another factor that may have contributed to this model is the ongoing anthropogenic modifications of the area. The soils around Conil are much deeper than other areas of the northern lowlands, so much so that mechanized plows are able to be used in the area. Over the years, a number of structures have been completely dismantled and repurposed. It is possible that the data is not entirely representative of the settlements that were present in the past.

This thesis is only a preliminary settlement study at the site of Conil and should be used as a stepping stone to learn more about coastal Maya settlements. At Conil, specifically, there is much more work that can be done in order to ascertain its greater place in the Maya world. There are large swaths of land within the site that have yet to be explored. Further, there are very likely settlements along the fringes of the site that need to be documented. This would provide an understanding of Conil’s role as a central power within the region.

9.2 Ongoing and Future Work

Ongoing investigations are happening at Conil this year. For example, the ceramic data collected from the survey will be analyzed in the upcoming months. While conducting my fieldwork, members of PCE were conducting a number of excavations at the site. These consisted of both on and off-structure excavations, the data from which will greatly contribute to my own work and inquiries pertaining to the site. The assemblages from these excavations can greatly aid in creating an understanding of the spaces that were occupied at these different times.
In the upcoming year, there will be a PCE panel at the Society for American Archaeology (SAA) conference. This is important, as Conil will be included in an interdisciplinary discussion about the Yalahau region. This is the first step of many that will help bring the site into the broader narrative pertaining not only to northern lowland sites, but coastal sites more broadly.
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